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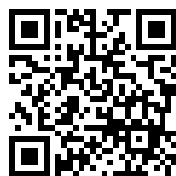
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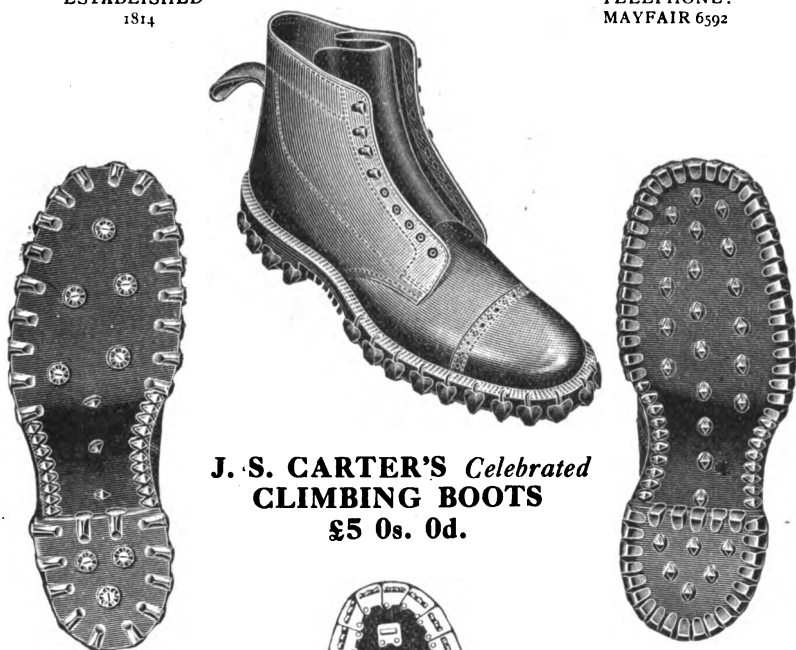
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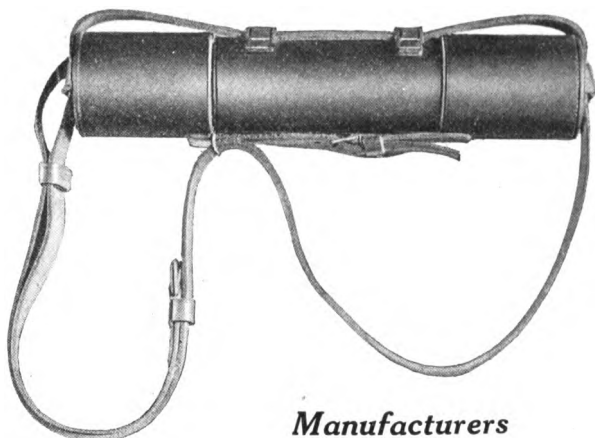
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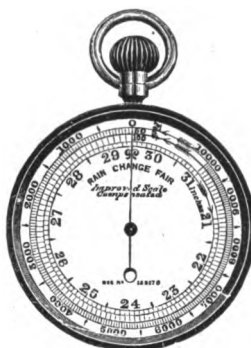
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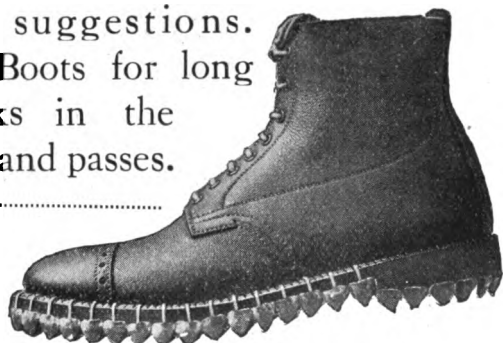
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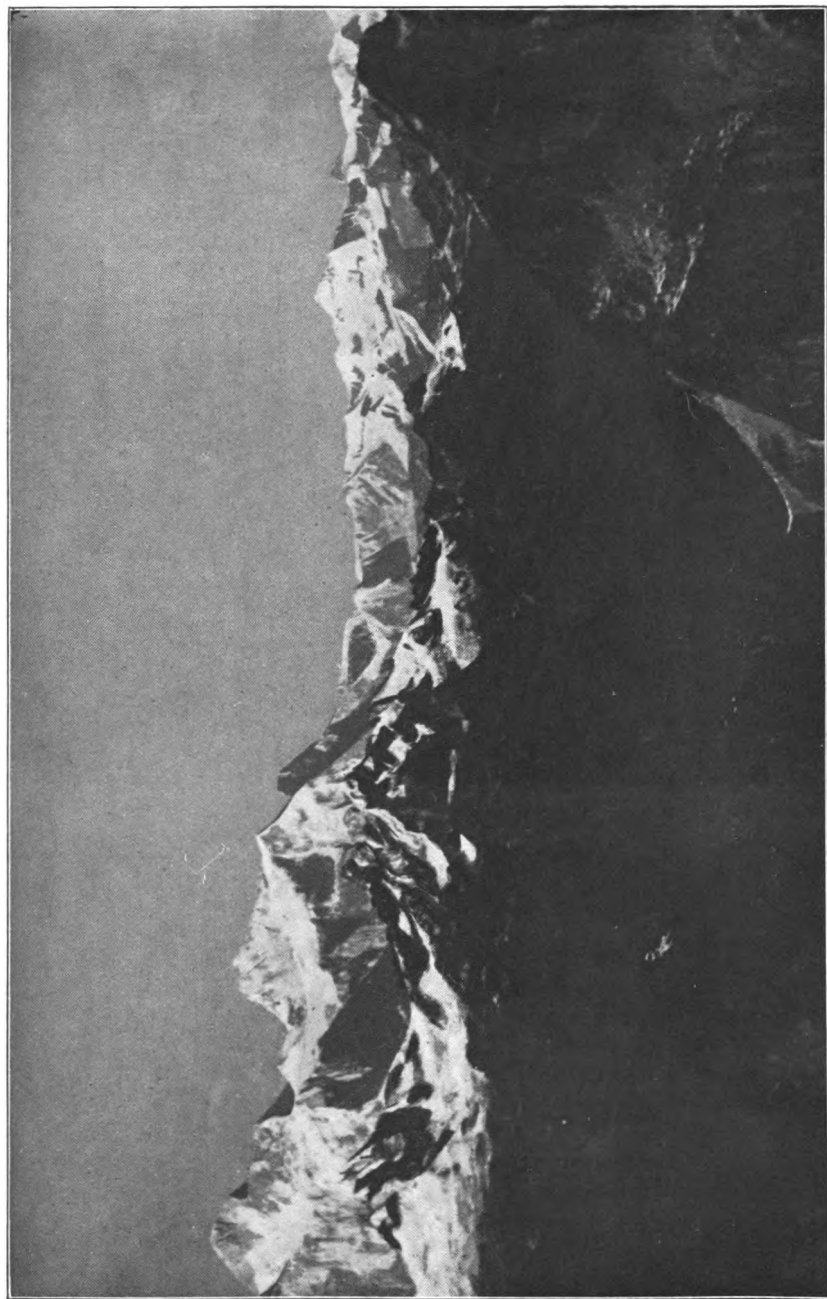
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MT. EVEREST AND THE RANGE TO THE NORTH  
FROM A PEAK (17,400 FEET) TWO MILES N.W. OF THE KANG LA



# THE ALPINE JOURNAL.

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MARCH 1921.

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(No. 222.)

A SHORT SUMMARY OF MOUNTAINEERING IN THE HIMALAYA,  
WITH A NOTE ON THE APPROACHES TO EVEREST.

By J. N. COLLIE.

AT the present time, when an expedition is being sent to Mt. Everest, it is worth while to give a brief account of what has been accomplished by mountaineers amongst the giant peaks of the Himalaya, a range that stretches from Kafiristan to the western borders of China, nearly 2000 miles in length. Outside the Himalaya and the neighbouring ranges, the highest mountain is Aconcagua, 23,080 ft. In the Himalaya and the neighbouring ranges there are at least eighty peaks above 24,000 ft., seventeen above 26,000 ft., and six above 27,000 ft. At present the record ascent is that of the Duke of the Abruzzi, 24,583 ft. on Bride Peak in the Karakoram range, N. of Kashmir. The earliest account of a high ascent in the Himalaya is that of Captain Gerard, who ascended Leo Porgyul to a height of 19,400 ft. in 1818. He says: 'I have visited thirty-seven places at different times between 14,000 and 19,400 ft.'

Sir Joseph Hooker, during the years 1848-49-50, visited Sikkim; he went to the Donkia Pass, 18,500 ft., and reached 18,590 ft. at Bhomtso. He was particularly fortunate in obtaining leave to enter Eastern Nepal, which since then has been entirely closed to Europeans. On a snow pass beyond Wallanchoon he was nearer to Mt. Everest than any European has ever been, the mountain being about fifty miles away.

From 1854-1857 the brothers Schlagintweit wandered

VOL. XXXIII.—NO. CCXXII.

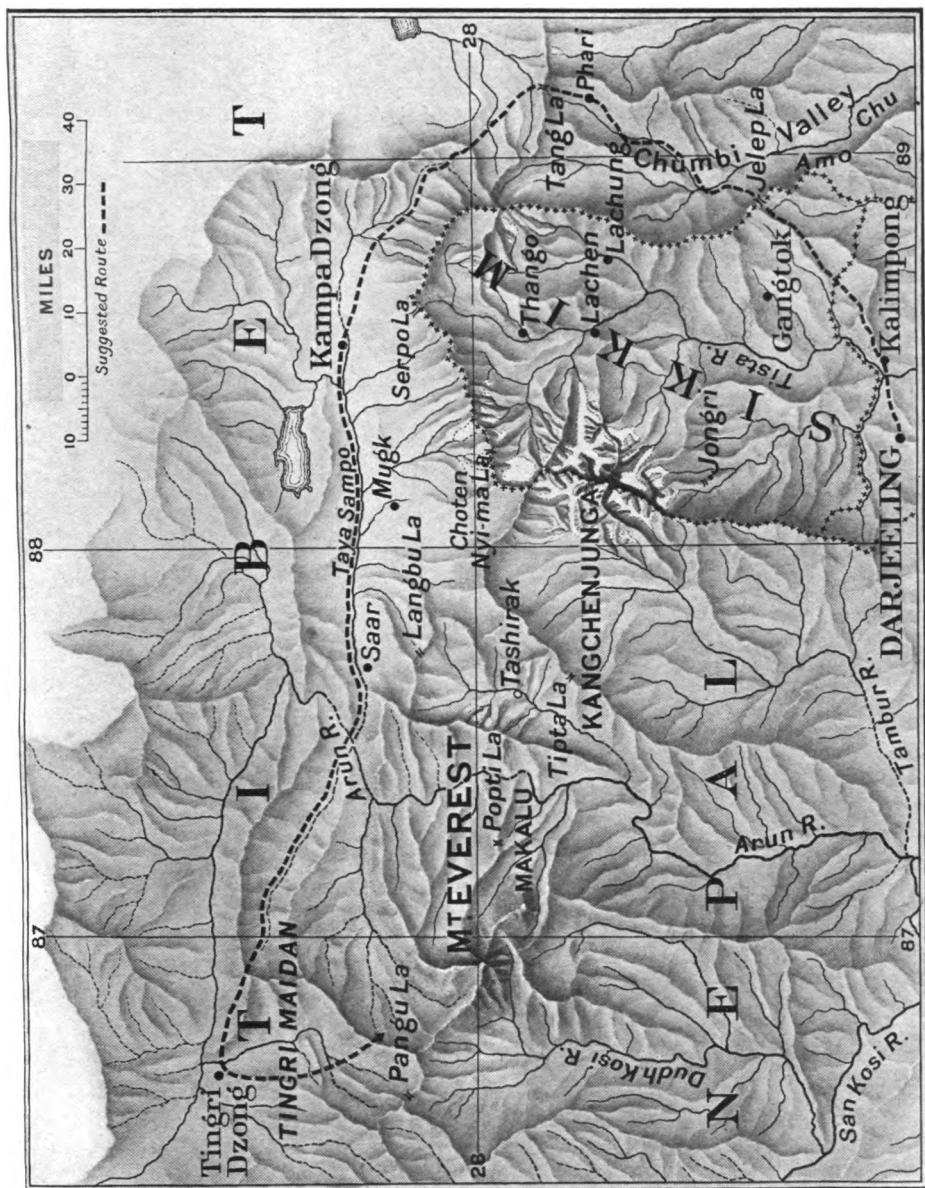
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through a large portion of the Himalaya. They were the first Himalayan climbers who had some knowledge of snow and ice, having climbed in the Alps. Their chief ascent was on Ibi Gamin, or Kamet, 25,447 ft., in August 1855. They estimated that they reached 22,259 ft. They made many glacier expeditions, and published many sketches of the high peaks in the Himalaya.

In the years 1860-1865 a most enthusiastic mountaineer appeared, W. H. Johnson, a Government surveyor. One of his masonry survey platforms is said to be visible on the top of a peak (21,500 ft.) near Leh. He penetrated through the ranges, beyond even the Karakoram range, often being over 20,000 ft. At one point he, in order to return southwards, had to cross a range at 22,300 ft. and spent the night at 22,000 ft. The highest peak he climbed was on E61, 23,890 ft., but probably there is some error made in its height. In 1866 he tried to form a Himalayan club, but he received no support. The mountaineering he did was extraordinary for those days; he was also a marvellous mapper of mountains, but the Indian Government valued his services so low that they reprimanded him for being too zealous in his mountaineering, and he left the Service.

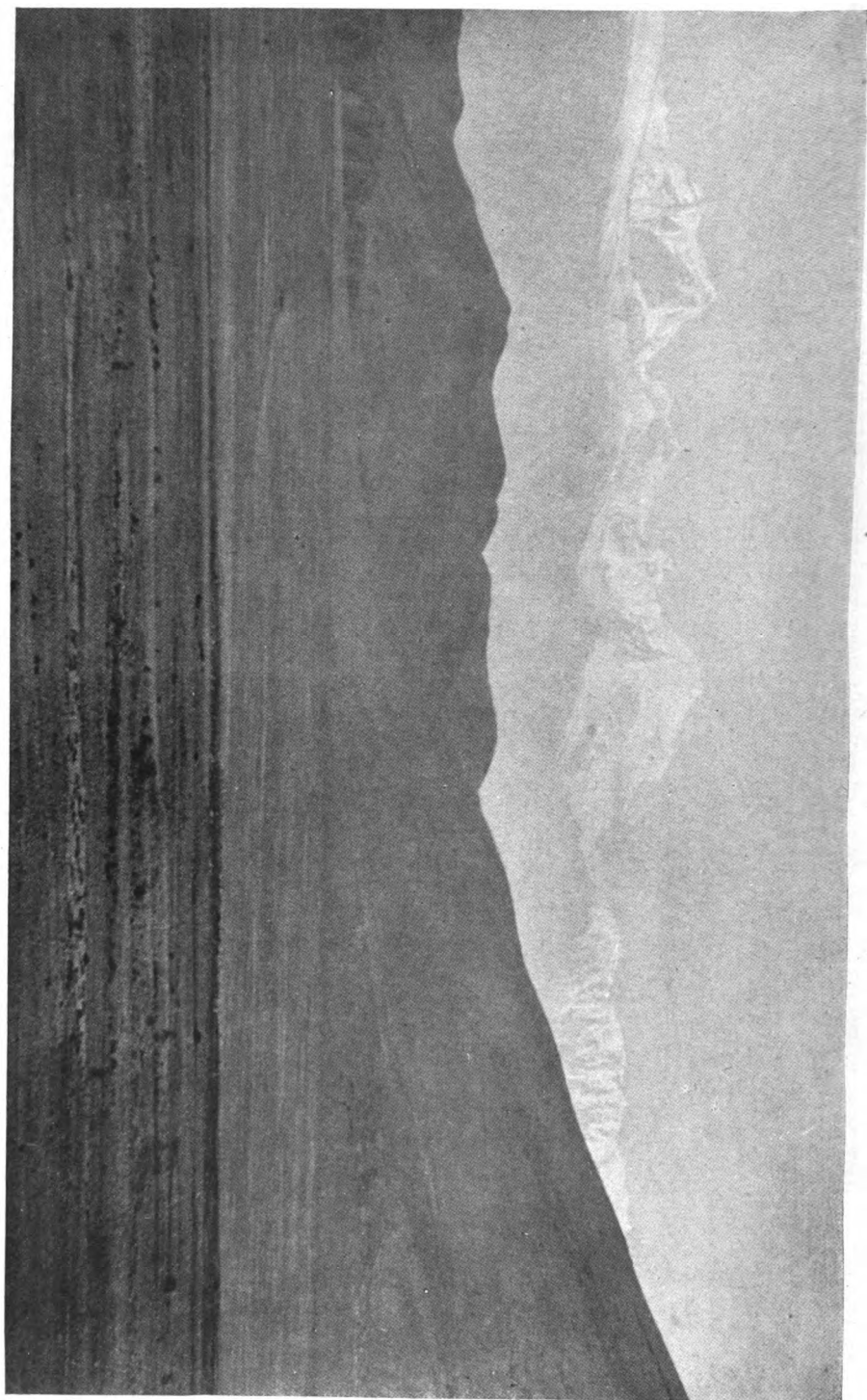
During the next ten or fifteen years but little mountaineering was done in the Himalaya. Captain Montgomerie and H. Godwin Austen pushed glacier exploration further than had been done before. The second highest peak in the world, K2, 28,278 ft., was discovered by Godwin Austen, and he visited the old Mustagh pass. Mr. Pocock (of the G.T.S.) set up a record plane table station, 22,040 ft., on Eastern Ibi Gamin in 1875. Sir Francis Younghusband also crossed a new Mustagh pass on his journey from China to India.

In 1883, W. W. Graham, first with Joseph Imboden, and then, on Imboden's departure, with Emil Boss and Ulrich Kaufmann of Grindelwald, visited Garhwal and Sikkim. In Garhwal he climbed Mt. Monal, 22,516 ft., and on another peak, Dunagiri, reached about the same height. In Sikkim he claimed to have climbed Kabru, 24,015, but it is much more probable that he ascended Forked Peak, which is lower. It was from the summit of this peak he saw two mountains which towered far above on a second and more distant range showing over the slope of Mt. Everest, one rock and the other snow. Boss thought they were higher than Mt. Everest. Most probably he was mistaken, but that there are high



--- THE APPROACH TO EVEREST

MT. EVEREST FROM KAMPA DZONG



peaks to the N. of Mt. Everest is a fact. Dr. Kellas's photograph taken last December, now reproduced, shows one is a snow peak and one a rock peak.

The next expedition to the Himalaya was Sir Martin Conway's, with C. G. Bruce, to the Karakoram mountains. From Hunza he ascended the Hispar Glacier; he then went down the Biafo Glacier to the foot of the Baltoro Glacier. Ascending this glacier he climbed to the summit of Pioneer Peak, 22,600 ft.

In 1895 A. F. Mummery, C. G. Bruce, G. Hastings and J. N. Collie went to Nanga Parbat, 26,620 ft. Only one determined attack was made on the mountain. Mummery and two Gurkhas, after sleeping at a camp about 18,000 ft., on the next day after very severe climbing reached about 21,000 ft.

In 1899 Dr. Workman and Mrs. F. Bullock Workman visited the Biafo Glacier. In later years they made seven more expeditions, to the Chogo Lungma Glacier, where they climbed a peak 22,567 ft., to the Nun Kun peaks, and to the upper part of the Siachen Glacier that had been discovered by Dr. Longstaff and Lieut. Slingsby. The books they published of their travels contain many interesting photographs, the study of which should be of value to anyone visiting the districts described.

In 1902 Dr. Jacot Guillarmod and Dr. Wessely reached a height of about 22,000 ft. on the N.E. arête of K2 after spending a month and establishing twelve camps on the Baltoro Glacier.

In 1905 Dr. Longstaff, with Alexis and Henri Brocherel, went to Gurla Mandhata, 25,350 ft., where he showed that even under extraordinary conditions climbing can be done at heights well over 20,000 ft. They started up the western ridge of the mountain, and camped at 20,000 ft. Next day they reached about 23,000 ft. on the ridge. In attempting to reach some rocks for a bivouac, they started an avalanche and were swept down 1000 ft. Spending the night on some rocks, they started again next day up a glacier for the top of the mountain, finally digging a hole in the snow, where they spent the third night at 23,000 ft. Next morning they again started for the summit, but two of the party were soon exhausted, a fact not to be wondered at; the third, Henri, however, was not only willing to go on but very much disappointed with the other two members of the party, urging 'You will be very sorry if you turn back now; you will regret it very much when you get down into the valley.'



In 1907 there were two expeditions to the Himalaya—one to Kanchenjunga, 28,225 ft., by C. W. Rubenson and Monrad Aas, and the other to Garhwal by Dr. Longstaff, C. G. Bruce and A. L. Mumm.

Rubenson's party did not do anything on Kanchenjunga itself, but attacked Kabru, 24,015 ft. In connection with their expedition there are some facts that are of considerable interest connected with climbing in the Himalaya at high altitudes. They camped on the mountains for about twelve days at 20,000 ft. and higher. Their highest camp was 22,600 ft. Their experience of a Himalayan ice-fall is worth recording: it took them five days to cut up it from 19,500 ft. to about 21,000 ft. The cold also was intense, 29° below zero in their tents. They finally ascended the mountain, but did not arrive on the summit, 24,015 ft., until six o'clock in the evening as the sun was setting.

Dr. Longstaff's party attacked Trisul, 23,360 ft. This mountain was successfully ascended by Dr. Longstaff. He camped at 20,050 ft., but was frozen out by cold and wind, and had to return to a lower camp at 17,450 ft. Starting again from this lower camp at 5.30 A.M., he reached the summit at 4 o'clock in the afternoon. He describes the *tourmentes* of wind and snow as paralysing in their intensity.

The next Himalayan expedition was that of the Duke of the Abruzzi in 1909, during June and July, to the Baltoro Glacier. They explored all the glaciers round K2, 28,278 ft., but came to the conclusion that it was impossible to climb the peak. An easier and less lofty mountain at the head of the Baltoro Glacier was selected, Bride Peak, 25,110 ft. Camps were pushed up a difficult ice-fall to the Chogolisa saddle, 20,778 ft., between Bride Peak and the Golden Throne. They spent nine days at this and higher camps in an incessant struggle with the weather, finally reaching an altitude of 24,583 ft. Their final rate of ascent was as follows: from 23,000–23,500 ft., 360 ft. per hour; from 23,500–24,300 ft., 270 ft. per hour; and from 24,300–24,583 ft., 160 ft. per hour. The weather was mild and the snow in a very dangerous condition.

Dr. Longstaff and Lieut. M. Slingsby in 1910 went in search of a long lost pass leading over the Karakoram range from Baltistan to Yarkand. This pass, the Saltoro Pass, Vigne had tried to find in 1835. Sir Francis Younghusband probably was near the N. side of the final pass over the watershed during his journey in 1889. A pass was found at the head of

the Salto River, and crossed, but 'what gave rise to no little surprise' was, they had not crossed the watershed of the Karakoram range but had discovered the largest glacier they had ever seen. Eventually it turned out to be the upper part of the Siachen Glacier that feeds the Nubra River, and certainly one of the largest in the Himalaya. It is surrounded by some very lofty peaks, and is the next great glacier E. of the Baltoro. At its head lies the pass over the watershed to the Yarkand River.

In the meantime Dr. Kellas had visited Kanchenjunga and the mountains that lie to the north of it. In 1911 he climbed Chomiomo, 22,480 ft., Pawhunri, 23,186 ft., and later Kanchenjunga, 22,700 ft., on his fourth visit to Sikkim. He also visited Nanga Parbat, and has been more than once to Kamet, 25,447 ft., where last summer he climbed with Major Morshead to 23,600 ft.

In 1910, 1912, and 1913 Mr. C. F. Meade made expeditions to Kamet, and in 1913 he succeeded in taking coolies and a camp to 23,500 ft. on Kamet. He stayed there the night, and experienced a temperature of  $-20^{\circ}\text{F}$ . in his tent. Whilst Meade was on one side of Kamet, Lieut. M. Slingsby was on another; he climbed to 23,350 ft. He does not say how many degrees of cold there were, but remarks: 'That night, ugh! I have never known such cold.'

In 1914 Dr. F. De Filippi explored the eastern end of the Karakoram range. He joined the gravimetric survey of India with that of Russian Turkistan. A glacier of unexpected size and importance, the Remo Glacier, was discovered. It is the source of the Shyok River and also of the Yarkand River.

H. D. Minchinton also in 1914 made an expedition to the Himalaya in Lahoul with some Gurkhas. They climbed several peaks of 19,000 to 20,000 ft.

Dr. Neve of Srinagar has also done much climbing and exploration in Kashmir and the neighbouring ranges, especially in the Nun Kun group.

But of all climbers in the Himalaya none have done so much as General C. G. Bruce. From far Chitral on the W. to Sikkim, 1200 miles away to the E., General Bruce has visited all the more important centres that are open to Europeans. Gilgit, Hunza, Nanga Parbat, K2 and the Baltoro Glacier, Nun Kun, and Kaghan, Chamba, Kulu, Lahoul, Spiti, Garhwal, and Kumaon—in all these districts he has climbed, and his knowledge of the Himalaya is unique.

It will be seen from the foregoing ascents in the Himalaya

that mountaineering at heights above 20,000 ft. is attended with difficulties that at lower altitudes give far less trouble. The difficulties are twofold, the physical and the physiological. We know more about the first than the second, at least as far as avoiding them; for such physical difficulties as steep rocks, steep ice-slopes, stretches of soft or powdery snow, if they occur to any great extent at high altitudes, would be prohibitive from the point of view of time alone. These we can almost always determine beforehand, by examining photographs. Such peaks as Kanchenjunga, K2, Nanga Parbat, and Nanda Devi, present very great physical difficulties for many thousand feet below their summits. They should certainly for the present be left unattempted by the mountaineer.

But of all the high mountains in the Himalaya Mt. Everest gives most promise of being free from physical difficulties near its summit. Also it is probable that the snowfall on the northern side of Mt. Everest is considerably less than on mountains further S. The monsoon weather that affects the southern faces of the Himalaya hardly comes so far as the country N. of Mt. Everest. For Mt. Everest is sheltered behind the great massif of Kanchenjunga on the S.E., and Makalu and other mountains on the S. Also the snow-line on the N. of the Himalaya is some thousands of feet higher than on the S. side.

It is the physiological difficulties, however, that play far the largest prohibitive part in high ascents. We yet have much to learn about them. The lack of oxygen and the effect of intense cold are the two chief difficulties to be conquered. The lack of oxygen at high altitudes is of course due to the rarefied air. During respiration the body gets its oxygen through the ultimate ramifications of the lungs—the alveoli; and it is through them that the blood becomes oxygenated before it returns to the heart, ultimately to do its work of oxidation of the tissues of the body. Should there be a deficiency of oxygen, the natural processes of the body are at once interfered with. If one takes an engine, and in one hour burns in it a hundredweight of coal, we get a certain amount of energy produced. But if for one hour we cut off the supply of air so that only one-third of the coal is burnt, we naturally only get one-third of the energy.

On the summit of Mr. Everest one is supplied with only one-third of the usual amount of oxygen. The question is, Can the human engine do much work with this limited supply?

Fortunately the body can acclimatise itself to a considerable extent to changed conditions. For instance, people who ascend Pike's Peak, 14,109 ft., in the United States by railway suffer from faintness, sickness, and blueness of the lips and cheeks, breathlessness and general lassitude. Their blood is unacclimatised to the deficiency of oxygen. Yet on the Pamirs at 15,000 ft. and above, people live their lives comfortably and do hard work; they are acclimatised. The chief effort of the body to counteract the deficiency of oxygen is to increase rapidly the number of blood corpuscles. These corpuscles are the carriers of oxygen from the air to the interior of the body. Double the number of these little carriers in one drop of blood, and that drop will carry twice as much oxygen to the tissues for available energy and life.

The number of such corpuscles in a cubic millimetre of the blood of a person at sea-level is usually less than five million. The average count of a native of the Pamirs is over eight million. On the Pamirs there is only about half as much oxygen in a cubic foot of air as at sea-level. People who make rapid ascents to high altitudes in balloons and aeroplanes are unacclimatised. Tissandier in a balloon ascent fainted at 26,500 ft., and on regaining consciousness found both his companions dead. Yet on the other hand the Duke of the Abruzzi at 24,583 ft., and Rubenson and Monrad Aas at 24,015 ft., were not only capable of living but doing work as well. They were acclimatised by living for some time at the reduced pressure. Another factor that favours the trained mountaineer is that a trained man needs much less oxygen during work than an untrained man. He is an engine working with the maximum economy.

The effects of intense cold on the human system is to lower the vitality, and there is no doubt that the cold at altitudes above 20,000 ft., with a wind, becomes almost paralysing. Longstaff, Meade, Rubenson, all suffered from it. Yet Henri Brocherel after three nights out, the third spent in a hole in the snow at 23,000 ft., was able and anxious to continue climbing. There is little doubt that with acclimatised climbers in first-rate training a greater height will be reached than 25,000 ft. But it only will be done under the most favourable conditions.

Probably the greatest difficulty will be getting the camps up to the high altitudes. The record at present is that of Mr. Meade's coolies, 23,600 ft. on Kamet. Given another 1700 ft., and a camp 4000 ft. from the summit of Mt. Everest

could be made. If the climbers in this camp were properly warmed and properly fed a push for the summit might be made. Dr. Longstaff 'rushed' Trisul, climbing almost 6000 ft. from his camp, and several other climbers have ascended many thousand feet in one day at very high altitudes. We more or less know that the physical difficulties on the summit of Mt. Everest are not prohibitive, and there is every reason to hope that the physiological ones will also not be great enough to stop a really determined attempt made on the mountain under favourable conditions.

The expedition to Mt. Everest has been made possible by the energy of Sir Francis Younghusband. Early last year he approached the Government in England, and through them the Indian Government, to induce them to ask permission from the Tibetan authorities to enter Tibet. Last summer, however, the Indian Government, owing to political reasons, intimated that for the present at any rate it was unadvisable to move further in the matter. Lt.-Col. Howard-Bury, however, went out to India and was successful in overcoming all difficulties. Just before the New Year a telegram was received saying the Dalai Lama had consented to an expedition entering Tibet to approach Mt. Everest.

The mountain can therefore be arrived at from its northern side, which is in Tibet. The southern slopes of Mt. Everest are in Nepal, a country entirely shut to Europeans.

The route followed by the expedition will be from Darjiling to Phari in the Chumbi valley, from there over a pass in the Himalaya into Tibet, thence to Kampa Dzong. This route has a much better road than the shorter route up the Teesta Valley. From Kampa Dzong to Tingri Dzong, that lies to the N.W. of Mt. Everest, there should be no difficulties. It ought to take not more than seven days. Tingri, and in fact most of the route from Kampa Dzong, lies very high, over 13,000 ft. The means of transport in Tibet is with ponies and yaks. At high altitudes yaks will be the chief means of transport; they are able to live on the very scanty herbage which grows between the stones, are very surefooted, and can be used over the roughest country up to 20,000 ft.

From Tingri the exploration of the valleys approaching Mt. Everest will be made. The chief object of the expedition next summer will be to make a thorough reconnaissance of the mountain, but should opportunity offer an attempt will



be made to climb as high up Mt. Everest as possible. The difficulties of thoroughly exploring and finding an easy route to the foot of such a giant as Mt. Everest will be great, for there must be several valleys coming down from the mountain in which probably will be long glaciers. It will take much time getting up to the head of these glaciers, and still longer to get from one valley into the next, as the ridges separating the valleys will almost certainly be far too high to admit of any camp being taken across them. Also probably the heads of the glaciers on the N. side of Mt. Everest will be at least 20,000 ft. This will be an advantage from the point of view of climbing Mt. Everest. If there are no steep glaciers and ice-falls between 20,000 ft. and 24,000 ft., the access to the upper snow-fields on the mountain will be not too difficult for the coolies. One must not forget Rubenson's experience on Kabru, when he took five days to cut up less than 2000 ft. of glacier. However, it is to be hoped that on the northern slopes of Mt. Everest the glaciers will be easier to climb. There is no doubt that the northern slopes of the Himalaya, on Pawhunri and Chomiomo, for instance, are far easier than the southern slopes, and the snow-line also is much higher.

General Bruce's paper on Mt. Everest in the *Geog. Journal*, January 1921, and Lt.-Col. Howard-Bury's 'Some Observations on the Approaches to Mount Everest,' in the *Geog. Journal*, February 1921, contain much valuable information.

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THE RANGES NORTH OF MT. EVEREST AS SEEN FROM NEAR  
THE KANG LA.

BY J. N. COLLIE.

ON February 5 I received a letter from Dr. Kellas, who is at Darjiling, in which he sent a tele-photograph (frontispiece), of much interest at the present time. Both Makalu and Everest are shown, but what is of exceptional importance is that the ranges to the N. of Everest have been photographed for the first time. It is taken from a peak 17,400 ft. N.W. of the Kang La.

After leaving the Kamet district he went to Darjiling, in Sikkim. At the end of November he started along the water-

shed between Sikkim and Nepal for the south-western spurs of Kanchenjunga, finally arriving at the Kang La. Again to quote :

‘ When we left Ghum in the end of November, we were during the day nearly continuously in mist, but on reaching the Nepal frontier ridge, we found that we were above the mists, and in nearly continuous sunshine during the day. This state of things continued during the month, and we reached the Kang La without fresh snow falling. At present I will merely send you two rough tele-photographs. I think you will agree that the rock peak and the snow peak dominating the further range are clearly in evidence, and explain Graham’s statement regarding his conversation with his guide on the top of Forked Peak.<sup>1</sup>

‘ Not only are Graham’s peaks shown, but there are at least two others unsurveyed above 24,000 ft., namely, the rock tooth to the N. of Makalu, and a splendid rock and snow peak N.W. of Graham’s snow peak, which is probably higher than any of these unsurveyed mountains. I will say more about these in my next letter.’

The above remarks of Dr. Kellas regarding Graham’s statement, made nearly forty years ago, seem to be well grounded. Graham in his paper (‘ A.J.’ vol. xii. p. 49), says :

‘ North-west, less than seventy miles, lay Mt. Everest, and I pointed it out to Boss, who had never seen it, as the highest mountain in the world. “ That cannot be,” he replied, “ those are higher ”—pointing to two peaks which towered far above on a second and more distant range and showed over the slope of Everest, at a rough guess some 80–100 miles further north. I was astonished, but we were all agreed that, in our judgment, the unknown peaks, one rock and one snow, were loftier. It has been suggested to me since that we mistook Mt. Everest, but this is impossible.’

That Graham was well acquainted with the form and appearance of Mt. Everest is evidenced by the fact that he has correctly identified Everest in a drawing by Col. Tanner (cp. ‘ A.J.’ vol. xii. p. 490).

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<sup>1</sup> The peak to the S. of Kabru that Graham most probably ascended.

Moreover, there is further evidence than Graham's of high peaks to the N. of Everest. Pundit No. 9 and Babu 'S.C.D,' who travelled through the country, say that it contains mountains of enormous height. There are also persistent native beliefs in the existence of rivals to Everest in the country N. of it.

It is also worthy of mention that Mr. Freshfield in his book, *Round Kangchenjunga*, p. 204, writes : ' The Kang La Peak is only a week's travel from Darjiling. Will not the Surveyor-General send up an officer who can climb and is competent to settle the question at issue ? ' The question at issue being the existence of the two mountains mentioned by Graham. That was twenty-one years ago. Dr. Kellas has been there and has obtained tele-photographs of very high peaks, just where Graham said they were. That they are higher than Everest is exceedingly doubtful, still the proof of their existence adds considerable interest to the expedition that next summer will be passing quite close to them.

One more word about Dr. Kellas's dash into the Himalaya, practically in December. He is to be heartily congratulated on the result, and admired for the pluck in undertaking a journey at such a time of year. One only wonders, for he says nothing about it, what were the temperatures he had to endure, at that season of the year, at altitudes sometimes higher than the summit of Mt. Blanc.

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#### HIMALAYAN HINTS FOR MOUNTAINEERS.

By C. F. MEADE.

[The following notes, though based merely on an experience of British Garhwal where I spent three seasons, may, I hope, be to some extent useful for climbers in other districts of the Himalaya.]

**PERSONNEL.**—In my last attempt on Kamet my party consisted of two Europeans, namely, my Alpine guide Pierre Blanc and myself. I am aware of the drawbacks of so small a European party, but when all goes well everything is much easier. In case of illness or accident it would be otherwise. Blanc is one of the few professionals ideally suitable for a Himalayan expedition, and he has been out three times, but I do not know whether he wants to go out again. If a guide be taken (and on Kamet a first-class step-cutter

may be essential) the question of his selection is of extreme importance. A guide in the Himalaya must combine the rare qualities of the cream of the first-rate professionals with all those advantages which an Englishman usually possesses in dealing with natives.

For high altitude transport the tribe of nomads who inhabit British Garhwal and are known as Bhotias are excellent. Once their confidence has been gained I cannot imagine better men for the job. Kumaunis and even Garhwalis (with exceptions) do not seem to compare with them. It is better to be accused of spoiling the men than to fail in supplying them with warm clothing and equipment on a very generous scale. Boots should be included. The Bhotias took kindly to them at once. The men should be made to understand clearly that the kit is only to be theirs as long as they remain in the employ of the expedition and continue to give complete satisfaction. It may be explained to them that only those whose service has been entirely satisfactory will be allowed to retain their kits on the termination of the engagement. As to spoiling the coolies it is worth remarking that the present of a pair of boots alone, apart from clothing, is probably the equivalent of a month's pay. At the same time they naturally will not accept boots in lieu of pay. In deciding the question of pay it is well to remember that the Bhotias are not mere baggage coolies, but can be relied upon to do all and much more than the work of Alpine porters. They are brilliant crag-climbers without any knowledge of snowcraft. Under an admirable trainer like Blanc they soon become efficient mountaineers. I employed about a score, of whom seven accompanied us to our 23,000 ft. camp.

As to the ideal trainer he should not only have 'personality,' but should equal the Bhotias in rock climbing, and only the best performers can reach this standard.

For the journey from railhead two chuprassis are taken to organise the necessary relays of coolies, but these chuprassis should not be retained after the base of operations is reached as they are useless at great altitudes. It is best to give the Bhotias their own head man, who will be absolved from carrying a load.

The choice of agents at or near railhead is important, as it may be necessary for the agents to forward additional supplies after the expedition has started, if the villages on the line of march are likely to be short of labour and unable to furnish sufficient coolies for the whole of the bandobast. Any such

arrangement would have to be very carefully planned out in detail beforehand.

As to cooks, I preferred to teach two Bhotias from the party whom we sent for to meet us near railhead. They cooked under our supervision. The Indian cook probably, or the Indian job cook certainly, is capable of accounting for the bad health of an entire party for a whole climbing season, for although he is skilful he will not learn hygiene and should not be trusted.

As bearers we employed two Bhotias. Indian job servants from the plains have a bad reputation and are a mischievous disruptive force in an exploring expedition.

For similar reasons, in spite of the obvious advantages of an interpreter, I preferred not to engage one, but to trust to luck and a smattering of Hindustani. The late Pundit Bidya Datt Dimri of Badrinath was most helpful when we were in his neighbourhood. A hired interpreter is too likely to be a rascal with a strong distaste for exploration, and his presence may have a devastating effect.

*Material.*—I had all my stores packed by the London 'Army and Navy Co-operative Society' in Venesta cases screwed down and fitted with padlocks. Half a dozen master keys were supplied. The padlocks should be packed together and only fixed on arrival at the Hill station, otherwise they are liable to be damaged in transit. Each of the victual cases held food for the two Europeans for five days. The provisions were weighed and sampled at home, and no load (except the tents) exceeded 40 lb. Light loads mean that coolies arrive punctually in camp. Moreover, the Government load is only 40 lb.

Wymper tents were used. They deserve their high reputation. An outer fly is, in my opinion, essential at high altitudes or the tent becomes uninhabitable when the sun shines. The arrangement for the outer fly requires altering. The tent poles require lengthening, and shoulders should be cut in them close to the top in order that the tips of the poles may project through strong eyelet holes made in the fly which should rest on the shoulders. If this modification is not made, the outer fly soon tears to pieces by fraying on the tips of the poles. To provide a sufficient air space as protection against sun the prolongation of pole and shoulder above the ridge line should provide a distance of at least six inches between the outer fly and the ridge line.

An 80 lb. Kabul tent is useful for the Bhotias at low elevations. The party who reach the very great altitudes

should all sleep in Whympers tents with outer flies and ground sheets sewn in. Even so, the sun is fearfully oppressive, and if I returned to the Himalaya I should try darkened material for the high altitude tents.

A good medicine chest is useful, as many natives will come to be treated if they receive any encouragement.

Several dozen articles of more or less value can be taken as presents for natives of various degrees of importance.

A few features of personal kit may be of interest. I took elaborate precautions against frost-bite. One of the most useful was a pair of cloth bags or toe-caps to slip on over the toes of the boots. They were held on by tapes passed behind the ankles and tied in front. The cloth was sufficiently weak to allow the boot nails to bite through it into snow, ice, or rock. This contrivance when worn out could be thrown away and spares could be carried.

Lifbuoy air cushions were invaluable for resting the hip, for we always slept on the ground.

At great heights we used big eider-down sleeping-bags in balloon silk outer bags and wore all the clothes that we had. A hot-water bottle was most useful at the highest camps, and Primus cooking stoves were always used there. It is most desirable to try special fuels or modifications of the Primus itself in order to make it effective in rarefied air, for under these peculiar conditions the Primus is a constant nuisance.

Helmets should give very thorough protection against sun, likewise should snow spectacles. The helmets should have good pugarees as additional protection, and strong chin straps.

Sun umbrellas were most useful at great heights also on the return journey in the rains. They should either be specially strong to be used as walking-sticks or have a fitting for a strap to carry them slung across the shoulder. I believe that by their use mountain sickness would be greatly mitigated.

In the low villages we marched in shorts and shirt sleeves. Stocking tops can be turned up over shorts to keep off biting flies, or the kind of shorts used in the war in the East may be worn. During the rains we carried featherweight oil-silk waterproof capes. These were fixed by tabs to buttons sewn on the back of the braces, and thus could be flung back, so that whenever the sun came out the encumbrance was imperceptible. Pith helmets require waterproof covers of oil-silk which can be put on whenever it rains.

In 1910 we carried a somewhat primitive apparatus containing oxygen cartridges which could be inhaled merely

through a tube without a mask. Our experience of it led to no conclusion.

The high-altitude coolies should have kit on a very generous scale, as the success of the expedition depends on their being well housed, fed and clad. Their clothing at great altitudes ought to be as warm and light as that of the Europeans and they should have good warm sleeping-bags. They soon accustom themselves to boots. Their kit must include snow spectacles, and I believe that shady hats or helmets with pugarees would keep them stronger and more efficient. A specially big size of rucksack is useful for these permanent coolies when carrying at great altitudes. I think that they should also be given a Primus stove and be taught how to use it.

*Organisation.*—A golden rule is to dispense with headmen, cooks, bearers, and interpreters. Our cooks were Bhotias who cooked humbly and honestly under supervision, while we frequented the cook-house as a smoking-room. Thus we escaped the poisonous activities of an Indian professional cook. Our headman was one of the Bhotias. Many trials had proved him to be pre-eminent among his fellows. As for bearers, the two Bhotias very soon learnt the simple duties required in camp, and enjoyed their jobs which entitled them to carry half loads. They never gave trouble. Indeed, I have never known a troublesome Bhotia.

Three other Bhotias marched with us always and carried half loads. One carried a light picnic meal and hot tea in a Thermos for consumption on the march. Sweaters and feather-weight mackintoshes were included in his load. The other two (the cooks) carried a light awning and materials for cooking an emergency meal on arriving at the new encamping ground pending the arrival of the coolies.

A good plan in organising the daily marches on the way up-country is to have a quantity of counters, one for each coolie load, stamped with a number corresponding to a number painted on the load. The coolies are formed into a queue at the beginning of each march and a load with its corresponding counter handed to each man as he comes up to the pile in his turn. At the end of a march the coolies have to present their counters before receiving their pay. This device will frustrate any false claim on the part of a coolie who may have shirked carrying his load. It also facilitates the prompt payment of the coolies in small groups as fast as they reach camp. Nothing is more discouraging to a punctual coolie than having to wait

hours for the arrival of dilatory companions before he can get away home with his pay. A hole with a string through it in each counter enables the coolies to carry their counters without losing them. For any loads, such as tents, which may be over 40 lb. coloured counters may be used and a fraction over the usual tiny backsheesh allowed.

As the loads are generally piled in stacks it pays to paint the numbers on each case in very large figures on each of the six faces. Various contents may be indicated by painting the cases various colours, for instance—red for petrol and money, yellow for victuals, blue for altitude kit, and so on. It is wise to distribute the cash among several loads. An index in duplicate can be kept of all loads with their numbers and contents.

A party of Bhotias came down to meet us at the Hill station that we started from. The party included the headman and the two cooks. The two bearers and the tiffin coolie were also chosen from it.

One secret of success will surely be in paying the greatest attention to the comfort of all the party, native as well as European. It is false economy to stint any of those engaged in work at great heights. As stated, I believe that the Bhotias (or permanent coolies) should have a first-rate outfit, including even a Primus cooking stove for use at high camps. It would be a good plan to think out a selection of light wholesome foods for the coolies to cook and eat at high altitudes, not forgetting the restrictions of caste. In the case of the Bhotias at high camps the restrictions become more elastic. When mountain sickness is feared the men may justifiably be exhorted to take certain European delicacies (never beef) in the guise of 'dawa' (medicine). At great heights the more substantial kinds of meat seem to be just as bad for Bhotias as for Europeans. The Bhotia habit of taking a nap in the sun must be firmly checked, as it is frequently a cause of mountain sickness.

*Health.*—I consider that the sun's rays passing through rarefied air have a peculiar potency and are a factor of extreme importance hitherto underestimated in causing mountain sickness. Umbrellas, pugarees, extra dark spectacles, darkened tent canvas, and other precautions should be taken. It is well to avoid marching in the heat of the day whenever possible, and especially when at great heights. I think that at heights above fifteen or sixteen thousand feet exposure to the sun affects the digestive organs and that a consequent need for aperients may become very urgent and chronic. There is



perhaps a tendency to make light of mountain sickness *after it is over*. It is surely fair to combat this tendency, if only for the sake of others who may undertake similar expeditions.

Unfortunately the appalling cold at great altitudes before dawn is a formidable drawback to marching at that hour. At 20,000 ft. I have known the temperature *inside* a small tightly closed Whymper tent, in which three men had cooked and slept; to drop to 20 degrees below zero Fahrenheit before dawn. The danger of frost-bite in the high Himalaya seems greater than the risk run in the lower ranges like the Alps, where the climber's power of resistance is stronger. In spite of this I think that the power of the sun is a more likely cause of failure than the cold.

In the inhabited valleys we only drank boiled water, usually in the form of weak tea, and we carried biscuits in order to avoid eating the local chupatti, which is made from flour that often contains fragments of grindstone and other foreign matter. At any wayside dak bungalow met with, it is prudent to inspect food before eating it. Special precautions should be taken against the risk of chills. With such reservations and with the exception of the cholera-stricken pilgrim routes on the Ganges (and these might be avoided) we found the hill climate a good one; that is, after we had foresworn the Indian professional cook and all his works. As far as fever is concerned, I think it more likely to be contracted from mosquitoes when the train halts at stations in the Terai. We were not troubled by it in the hills.

*Difficulties.*—If at great altitudes step-cutting in ice becomes necessary, or if the party have to wade through powdery snow, the consequent exhaustion of the climbers is likely to make a big ascent impossible. During three seasons I have invariably encountered powdery snow when above 20,000 ft., but I have had no experience of autumnal conditions. I doubt whether the cold high up is any worse in early autumn. Snow-shoes and even the smallest skis would seem to be too unwieldy for use at the great heights, and if powdery snow be met with, success would probably be impossible.

In the Alps a slope or couloir is generally less steep actually than a distant view of it would imply. In the Himalaya the converse seems to be the rule. The greater scale in the Himalaya results in greater complexity of detail; the topography is consequently more intricate; not only are distances at first more difficult to judge, but the features of the landscape are more deceptive. I believe too that apart from their

greater scale the Himalayan peaks are more formidable than the Alpine summits. They strike me as steeper, and I suggest that, with greater extremes of heat and cold than in Europe, their rocks may disintegrate more rapidly and ice may cling to slopes at steeper angles. Cornices as well as avalanches of all kinds are commoner and more extensive.

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#### DR. KELLAS' EXPEDITION TO KAMET IN 1920.

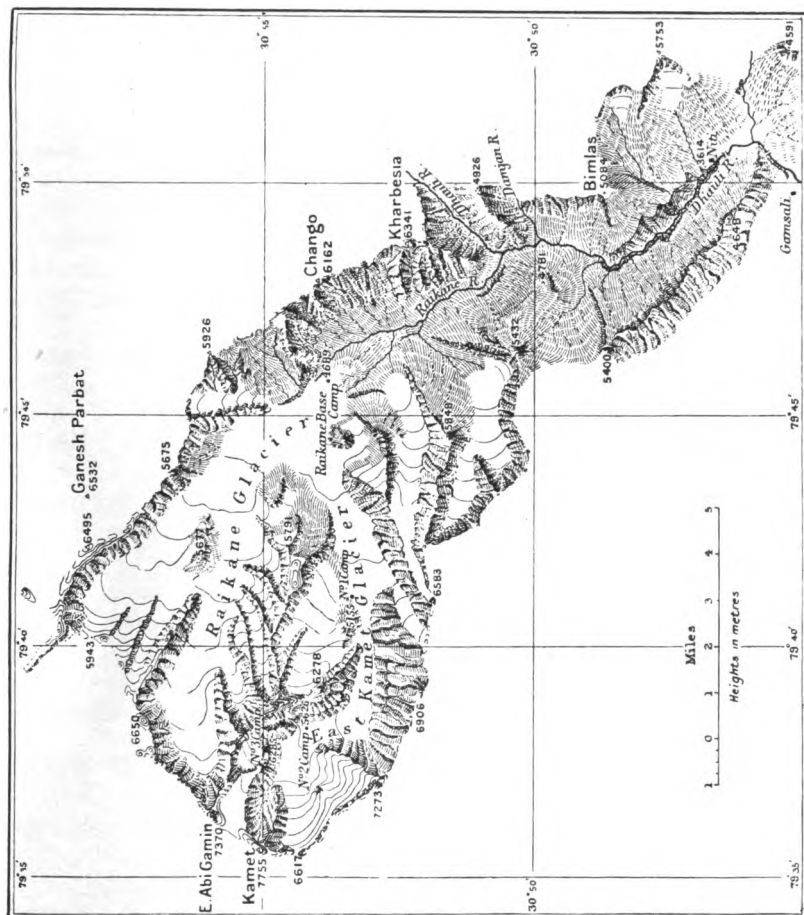
**D**R. KELLAS, who has remained in India with the intention of making another attempt on Kamet next summer, but has now agreed to join the Everest expedition, has sent a copy of the report he has made to the Oxygen Research Committee; and in view of its immediate importance to the Mount Everest expedition, we assume his permission to print the following extracts from it:

'At the end of the first week in August part of the expedition started from Kathgodam, and on August 19 joined Major Morshead at Chomoli, about 150 miles to the N. The permanent members of the expedition included Major Morshead and his transport officer, with eleven attendants—the latter being intended chiefly for survey work, and also for transport at high altitudes—and myself with two servants. There were about eighty-three coolie loads.

'From Joshimath, 29 miles N. of Chomoli, transport work was difficult, and repeated unavoidable delays occurred. Four bridges had been washed away in the Niti Valley by floods, but the Deputy Commissioner of Garhwal, Mr. P. Mason, made such arrangements that we had only to build one bridge over the river Dhaulī.

'On August 29 we started from Niti, the highest village on the route (12,000 feet approx.), with about twenty-one yaks and forty coolies (each yak carrying two coolie loads), and on August 31 reached a base camp at the end of the Raikana Glacier at an altitude of 15,380 feet.

'Above this point the route was very rough, and all baggage had to be carried by coolies. Carriage of wood, which could be obtained about a mile below the camp, became of special importance. Even at this base camp want of acclimatisation to altitude began to be evident in certain cases, and incidence of malaria was also troublesome.





' On September 3 an advance was made along the east Kamet Glacier—which was found to be quite incorrectly given on the map—and a camp formed at about 16,800 feet. This camp was on fine sandy detritus on a bank above the glacier, and was generally regarded by the coolies as the last comfortable camp. A delay occurred here due to difficulties in connection with transport of wood, and it was September 8 before Camp No. 3 was formed at 18,500 feet on rough glacial detritus above ice. This third camp was near the base of Kamet, which rose in a series of rock precipices to the N.W., forming a comparatively sharp peak. Between this peak and the ridge of east Ibi Gamin (24,170 feet), to the N.E. there was a snowy saddle of altitude about 23,500 feet, which obviously indicated the route to the summit. The increase of height between this third camp and the saddle—namely, 5000 feet—consisted firstly of 2500 feet of sharp ascent, chiefly steep scree, but partly *débris*-covered glacier, then came 1000 feet of precipitous rock, and finally about 1700 feet of snow and ice. From the configuration of the mountain it seemed likely that the tops of these three "pitches" would necessarily represent positions for Camps 4, 5, and 6. At this third camp my chief servant became so incapacitated—he had been accidentally benighted on the glacier along with Major Morshead's servant—that he had to be sent back to Niti.

' On September 11 we moved up to a camp above the screes—Camp No. 4—our tents being pitched at 21,000 feet (approx.). Here the transport was unsatisfactory, and we were detained about a week. At this camp it became evident that our remaining servants would be unable to go higher. Both seemed to have reached the limit of their acclimatisation powers, in spite of being adequately protected, and suffered from the cold—approx. 0° Fahr. during the night—while my servant again had attacks of malaria.

' On September 19 we climbed the rocks, and formed a camp on snow at approximately 22,000 feet. After a day at this camp to allow acclimatisation to take place, we ascended to a little above the saddle along with three coolies from the village of Mana, starting at 9 A.M. and reaching the saddle at 3 o'clock. At 3.30 we had attained about 23,600 feet, our maximum altitude, but the coolies declined to attempt Ibi Gamin (24,170 feet), which seemed feasible, or to ascend further on Kamet. Starting back at 3.45 P.M. (approx.) we descended rapidly, and reached our 22,000-foot camp

about 5 p.m. The wind was cold, and the three coolies with us suffered more than Major Morshead or myself, and complained of headache. A considerable amount of step-cutting was necessary, which was shared.

'Next morning Major Morshead unfortunately had to descend, as his period of leave had expired, taking all the coolies with him. The coolies refused to entertain the idea of moving a camp up to the saddle, alleging that the winter storm was due, and that we would be snowed up. The threatened incidence of this winter storm had been their continual complaint since reaching Camp No. 3, but otherwise the men from Mana village (10,000 feet), some of whom were coolies who had been with me previously in 1911 and 1914, behaved very well, and indeed were the mainstay of all the hard work carried out. On three occasions at Camp No. 4 we had about a couple of inches of fresh snow, the bulk of which quickly evaporated.

'At the base camp I tried to get coolies to come and pitch a camp on a pass between the Raikana Glacier and the Ganeshganga Valley to the N., from which one could carry out experiments with the oxygen cylinders, and Professor Hill's rubber bag on a beautiful snow-peak 21,700 feet high, which evidently could be climbed. Even a heavy snowstorm could have been weathered in such a position, but the coolies refused to obey the transport officer, and would not even transport wood a distance of 3 miles to a base camp below the Ganeshganga Peak mentioned. In addition to this, when on two consecutive days the yakmen had driven off their yaks unloaded, and men had to be sent after them to bring them back, it was evident a retreat was necessary.

'We therefore made a double march to Niti on October 1, and on the following day reached Malari, a large village about 10 miles to the S. I had not agreed to the retreat from the Raikana Glacier until the transport officer had promised to try and make an arrangement at Malari to visit the Bagini Glacier to the S.E., and form a high camp on a suitable mountain for carrying out experiments, and I had fixed upon Dunagiri Peak (23,184 feet), the finest mountain of that region, for the purpose.

'On October 3 we moved S. from Malari, and on the 5th reached Dunagiri village (11,150 feet), about three days' march from the mountain of the same name. It soon became evident, however, that the Dunagiri men were somewhat

inefficient coolies and knew nothing of snow work, so that the idea of forming a camp at 20,500 feet on Dunagiri was abandoned, and a camp formed at 18,000 feet on a more accessible mountain about 21,000 feet high to the N.W. of the Bagini Glacier.

'About a week's work was carried out at this high camp, and Dunagiri was regained on October 16. From there continuous travel *vid* Joshimath, Karuprayag, and Ranikhet brought us to Kathgodam on the 5th, and thence to near Darjeeling on November 9, after an absence of four and a half months.

#### 'OBSERVATIONS ON MOUNTAIN SICKNESS.

'Contrary to the author's observations in previous expeditions, mountain sickness, in one form or another, was not uncommon. Two reasons explain the difference. In the first place, in previous expeditions picked hillmen were employed, whereas in this case several men from near the plains were present; and in the second place, most of the coolies in preceding expeditions were Buddhists, who can vary their diet, whereas on this occasion the men were Hindoos, and handicapped by a comparatively rigid diet which in some respects is unsuitable for high altitudes, unless under special conditions, difficult to arrange for. As it is extremely difficult to cook the nitrogenous vegetable foodstuffs above 16,000 feet, fresh mutton should be supplied.

#### 'ACCLIMATISATION TO HIGH ALTITUDES.

'Satisfactory acclimatisation to the maximum altitude reached was attained by only two members of the expedition, namely, Major Morshead and myself. This is probably in some measure well shown by pulse and respiration rates, which were always taken at rest while sitting.

'The time spent at the highest camp (22,000 feet), however, two and three nights respectively, was insufficient to arrive at definite conclusions as to the completeness of our adaptation to that altitude. In connection with the projected ascent of Mount Everest (29,141 feet), it is obvious also that capacity for acclimatisation should be tested at higher altitudes, and next year the author hopes that it may be possible to camp for a week just below the Kamet saddle, at an elevation of about 23,400 feet.

' A few cases of Cheyne-Stokes breathing were observed, although as a rule at least twenty-four hours were allowed for acclimatisation to take place before making observations.

#### ' SUITABLE DIET FOR HIGH ALTITUDES.

' In previous expeditions it had been observed that a depreciation of appetite seemed to occur after residence for some time above 20,000 feet. As it was possible that this might have been due to the diet, which had consisted entirely of tinned foods, chiefly cold because of difficulties regarding fuel transport, an attempt was made on this occasion to get an approximation to the diet usually taken at sea-level as already mentioned. Fresh mutton and vegetables were used at the higher camps, and the food varied as much as possible. The effect was distinctly good, and no diminution of appetite was observed, even at the 22,000-foot camp; but, as already indicated, the time spent there was too short to form a definite opinion as regards completeness of acclimatisation.

' During the ascent to the saddle our appetites seemed good, but we had little time for halts, because of the amount of step-cutting necessary, and there was also a very cold wind. As liquid refreshment, we had a large Thermos flask filled with hot bovril.

#### ' RATE OF ASCENT.

' The times of holding the breath, and the alveolar oxygen pressures at different altitudes, are obviously connected with the possible rates of climbing, and it could be shown that, assuming 1000 feet change of altitude per hour on easy ground to be an average rate of ascent at the summit of Mont Blanc (15,780 feet), the rate at 23,000 feet would be about 600 feet per hour. On this occasion, excluding halts, our speed was only a little above half that value, viz. 320 feet per hour, but, considering the amount of step-cutting necessary, this was about what would have been expected. On previous expeditions the author has found that his rate of ascent on easy snow at 23,000 feet approximated to 600 feet per hour, agreeing with Longstaff's experience on Trisul. On such a basis, the calculated rate of ascent for the last 1000 feet of Mount Everest would be between 250 and 350 feet per hour. Possible



rates of ascent may be further tested and elaborated in next year's report.

' VARIATION OF MINIMUM TEMPERATURE WITH ALTITUDE.

' Raikana Glacier.

Base Camp No. 1..	15,380 feet	31-8-20	Min. 30° Fahr.
2nd Camp .. ..	16,800 "	4-9-20	" 28° "
3rd " .. ..	18,500 "	9-9-20	" 15° "
4th " .. ..	21,000 "	12-9-20	" 4° "
5th " .. ..	22,000 "	19-0-20	" -15° " .'

The following extracts from the report of Major H. T. Morshead, D.S.O., R.E., are given by the courtesy of the R.G.S., in whose March Journal the full report will be found :

' The foot of the Raikana Glacier was reached on September 1. Dwarf juniper scrub (*bhitaru*) grows plentifully in this neighbourhood and forms an excellent fuel, which can be pulled up by hand by the roots without the use of an axe, and burns with a pleasant aromatic odour. Above this point no further fuel occurs, nor is the valley passable for yaks. . . .

' From the Raikana base camp our route was identical with that of C. F. Meade in 1913, and led over the moraines and crevasses of the east Kamet Glacier for a distance of 10 miles. Frequent and terrific avalanches from the steep southern and western faces of the valley are a feature of this portion of the route, and form a danger to incautious travellers ; safe camping sites may be found, however, here and there on the opposite side of the valley. We were fortunate in having with us some of Meade's old coolies, whose knowledge of previous camping-grounds proved invaluable, and I am glad to take this opportunity of acknowledging our indebtedness to his gallant pioneering. Profiting, however, by Meade's experiences of mountain sickness after a series of long and rapid marches, we decided on adopting a programme of short and easy stages with frequent days of halting for acclimatisation, which latter incidentally enabled the coolies to return for further supplies of much-needed fuel and provisions. . . .

' It may be profitable to discuss briefly the reasons of our failure to reach the summit of the mountain. Undoubtedly the first and foremost cause was the lateness in the year. . . .

' A second cause lay in the failure of the Survey khualis, recruited from the middle Himalayas, to stand the climate

and altitude of the higher ranges. I had enlisted a dozen strong Garhwali khalasis . . . who had been lavishly equipped with warm clothing on the arctic scale. Unfortunately, one half of their number succumbed to mountain sickness at 15,000 feet, while the other half proved so extravagant of our precious firewood that they had to be sent back to the base camp, and their places taken by the hardier Bhotia men of Niti and the neighbouring villages. The provision of boots and warm clothing for the latter on the spur of the moment was however a matter of difficulty and proved a direct contributory cause of our failure.

'A third cause of failure must be traced to the inadequacy of our arrangements for cooking at the higher altitudes. I was unaware until too late that the large Primus stove, on which I had been relying, would not work in the rarefied atmosphere of 20,000 feet, beyond which point methylated spirit is the only possible fuel: while Dr. Kellas had only one small spirit stove which took an hour to thaw sufficient snow to fill a teapot. Had our equipment included a dozen large spirit stoves and two or three two-gallon petrol-cans full of methylated spirit, both our own and the coolies' cooking would have been assured.

'I have nothing but praise for the Bhotia coolies of the higher Himalaya. On rock they can climb like goats, while on ice they readily learn step-cutting. . . .

'The oxygen apparatus forms the subject of a separate detailed report by Dr. Kellas. Neither of us felt the slightest need for artificial stimulants in the form either of oxygen or alcohol up to the highest point reached, and my impression is that one could have gone several thousand feet higher without distress of breathing, had other conditions admitted. . . .

'It only remains to express my gratitude at being privileged to serve my apprenticeship in mountaineering under so experienced a hand as Dr. Kellas. Failure is often more instructive than success, and I can only hope that this expedition, on which I shall always look back with feelings of pleasure, may be the prelude to other more successful future efforts in the same genial company.'

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Major Morshead, D.S.O., R.E., is, we understand, a nephew of Mr. F. Morshead the famous old member of the Club.

Major Morshead served in the war as C.R.E. of the 46th North Midland Territorial Division, whose final exploit was to capture, on September 29, 1918, the Bellenglise position of the Hindenburg line. He got his D.S.O. in 1917.

Mr. C. F. Meade writes :

‘The accounts by Dr. Kellas and Major Morshead are extraordinarily interesting. I am inclined to revise my conclusions and believe I was wrong in rejecting the possibility of acclimatisation at heights of 20,000 feet and over.

‘Given perfect snow conditions and easy climbing, it certainly looks as if mountaineers of such exceptional adaptability to altitude as Kellas and Morshead might conquer Everest without much suffering.’

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## EARLY EXPLORATION OF THE ROCKY MOUNTAINS.

By J. NORMAN COLLIE.

The Club has lately acquired a rare blue-book entitled ‘Papers relative to the Exploration, by Captain Palliser, of that portion of British North America that lies between the northern branch of the river Saskatchewan and the frontier of the United States, with maps. 1859.’

**I**N the year 1857, Capt. J. Palliser was sent by the British Government to explore, ‘that portion of British North America which lies between the northern branch of the river Saskatchewan and the frontier of the United States, and between the Red River and the Rocky Mountains.’ The expedition was also to report on the feasibility of a route across the Rocky Mountains from the east to British Columbia, ‘to ascertain whether any practicable pass or passes available for horses existed across the Rocky Mountains within British territory, and south of that known to exist between Mount Brown and Mount Hooker in latitude 54° 10’.

Capt. Palliser’s report to the Houses of Parliament is by far the most exhaustive early account of this western district of Canada. It was published in three blue-books, 1st part, 1859; 2nd part, 1860; and the 3rd and most comprehensive report in 1863. This last report contains the ‘Journals and detailed account’ of the expeditions.

These reports are rare and difficult to obtain. The one obtained recently for the Alpine Club library is the 1st part. The first man to cross the continent in Canada was Sir Alexander Mackenzie in 1793. A few explorers or fur traders had been as far west as the Rocky Mountains, but there is no record of their having got further. Mackenzie’s route was

by means of the Peace River and finally over the Divide to the head waters of the Fraser River.

About the beginning of last century David Thompson crossed the Rocky Mountains further south from the head waters of the Athabasca River to those of the Columbia. From this time onward few people penetrated into these far-off wilds, and the next important account we have is contained in these Journals of the Palliser Expedition. They are chiefly concerned with the passes south of the Athabasca Pass (crossed by Thompson) to as far as the boundary with the United States.

The passes they discovered were the Kananaskis, Vermilion, Kicking Horse, Kootanie, and the Crow's Nest Pass.

The difficulties of travel in those days were naturally great, especially on the west side of the mountains, where the forests and vegetation grow more thickly than on the east side. Deep rivers had to be crossed, and, for the most part, meat had to be obtained as best they could, and often they had to live on very short rations.

The member of the Expedition who covered much the most country was Dr. Hector. He was chiefly concerned with a search for passes in the most northern section explored by the party.

For the first part of the report, Capt. Palliser describes the discovery of the Kananaskis Pass, over the Rocky Mountains, from the Bow River to the Kootanie. Lieut. Blakiston crossed by another, further south, named the Kootanie.

But by far the best explorer of the party was Dr. Hector. He was also an accomplished naturalist and geologist, and, according to Capt. Palliser, 'the most accurate mapper of original country I have ever seen.' In the Palliser reports all the most interesting information about the mountains is from Dr. Hector.

There is in the first part, a short description of Hector's journey from the old Bow Fort, near where Banff is now, up the Bow River, over the Vermilion Pass, to the west side of the Divide. From there he went to the head of the Kootanie River to the Kicking Horse River and discovered the Kicking Horse Pass over which the Canadian Pacific Railway now runs. It was owing to his having been severely kicked by one of his horses in the chest and rendered senseless that he gave the name to the river and pass.

He naïvely remarks: 'My recovery might have been much more tedious than it was, but for the fact that we were now

starving, and I found it absolutely necessary to push on after two days.' But it was not till five days later that they managed to kill a moose. He then remarked, 'we were relieved from want.'

He was then at the head of the Bow Valley, and might easily have gone down the river to the Old Bow Fort. Instead, however, he pushed north, through much deep snow, and thunderstorms, to the unknown country at the source of the Bow River, and thence down the Little Fork valley to the Saskatchewan. Here he measured the heights of Mts. Murchison, Balfour, and Forbes. His measurements, however, are considerably too high. He pushed up the Saskatchewan, discovered Glacier Lake, and ascended Peak Sullivan, whose height he gives as 8913 feet. As the season was far advanced he now returned down the Saskatchewan to Edmonton.

To those who have travelled over the same ground, Hector's daily marches seem extraordinary. He, for instance, averaged 24 miles a day with horses from Mountain House to Edmonton, and the last part of the journey was through thick snow. In the mountains it was the same. He not only managed to travel far each day, but at the same time hunted for game on the mountain side as well. He travelled from the Bow Valley to the Saskatchewan in three days; it now takes an ordinary party five or six days. It may be that there was not so much burnt timber then, yet he often mentions that he had to cut his way through burnt forest.

There is also a geological report of Dr. Hector's, in which he seems to have noticed all the most important geological features in every part of the country he traversed. Coal, fossils, glacier terraces, twisted rock strata, absence of volcanic rocks, and granite, &c.; nothing seems to have escaped him, and his reports are excellent reading.

Several of the more important mountains owe their present names to him: Mts. Ball, Lefroy, Goodsir, Balfour, Murchison, Forbes, Lyell, are some of them. In those days it was the custom to name nearly all the mountains in the Rocky Mountains after celebrated men. There are, indeed, no Indian names, as the Indians have only recently, since about 1840, occupied the district. Dr. Dawson says: 'The Stoney Indians attach definite names to very few natural features in the region, whether mountains or rivers.'

Although Palliser and his party had discovered various passes across the Rocky Mountains, yet they had not dis-

covered the chief object of the expedition, 'a feasible route across the mountains from the east side of the Rocky Mountains to the Pacific Coast.' There is an immense mountain area west of the Rocky Mountains; the Selkirk Range and the Cascade Range form almost impassable barriers. Palliser in his report to the British Government despaired of ever connecting British Columbia with Eastern Canada. To quote his report: 'The manner in which natural obstacles have isolated the country from all other British possessions in the East is a matter of considerable weight; indeed, it is *the* obstacle of the country, and one, I fear, almost beyond the remedies of Art.' And again: 'The knowledge of the country as a whole would never lead me to advocate a line of communication from Canada across the Continent to the Pacific, exclusively through British territory. The time has now for ever gone by for effecting such an object, and the unfortunate choice of an astronomical boundary line has completely isolated the Central American possessions of Britain from Canada in the east, and almost debarred them from any eligible access from the Pacific Coast on the west.'

Palliser's forecast was too pessimistic, for in less than twenty-five years the Canadian Pacific Railway, from Montreal to Vancouver, was opened.

By far the most interesting part of the Journals, from a mountaineering point of view, are the descriptions of travel by Dr. Hector. He was a true pioneer, and anyone who proposes to make a lengthy expedition in the Rocky Mountains will get much good advice and information from his descriptions written sixty years ago. He found the Blaeberry Creek on the W. side of the mountains almost impossible to horses, and exploration on that side is no easier to-day than it was then.

It is worth mentioning that, after Palliser's expedition, up to the time when the Canadian Pacific Railway was opened, there are only two important accounts of the Rocky Mountains. The first, 'The North-West Passage by Land,' by Viscount Milton and Dr. Cheadle, 1863. They crossed the mountains from the Athabasca River to the Fraser River, over the Yellow Head Pass. The second, a voluminous report by Dr. Dawson on the physical and geological features of that portion of the Rocky Mountains between latitudes 49° and 51° 30', with maps published in the Annual Report of the Geological Survey of Canada, 1886.

THE EARLY HISTORY OF THE COL DU GÉANT AND THE  
LEGEND OF THE COL MAJOR.

By HENRY F. MONTAGNIER.

THE researches of the many writers who have dealt with the history of this celebrated glacier pass have thus far failed to bring to light any trustworthy record of a passage earlier than that of the two Chamonix guides, Jean-Michel Cachat and Alexis Tournier, in 1787 ; and it is almost needless to recall the fact here that even the familiar name by which it is now designated dates only from de Saussure's memorable expedition of the following year. But we are assured, nevertheless, by the Rev. W. A. B. Coolidge, that the Col du Géant was undoubtedly used as a direct and convenient route between Courmayeur and Chamonix at least as far back as the middle of the seventeenth century.<sup>1</sup> The evidence brought forward by Mr. Coolidge in support of this affirmation may be briefly summarised as follows :

1. A long series of old maps of Savoy and the adjacent countries, dating from 1647 to the close of the eighteenth century, on which a pass apparently affording a direct route between the two villages is indicated under the name of 'Col Major.'

2. A few vague and contradictory references to this pass in the memoirs on the Alpine frontier compiled by the topographical service of the French Army during the eighteenth century.

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<sup>1</sup> See *A.J.* xviii. 59-61 ; *Jahrbuch S.A.C.* 1901, pp. 266-276 and 1902, p. 274 ; *Josias Simler et les Origines de l'Alpinisme*, 1904, p. cxiii ; *The Alps in Nature and History*, 1908, p. 202 ; and the *Revue Alpine*, 1911, pp. 230-232 ; 1913, pp. 229-250 and 448.

I note that Mr. Coolidge's views have undergone a considerable change since 1897 when he wrote in *A.J.* xviii. 60 : 'The name "Col Major" as applied to the Seigne is particularly interesting, as it disposes of an argument sometimes alleged that the pass *must* be the Col du Géant, whereas no doubt it might (in accordance with a general rule) have been used of any pass leading to or from the "Col Major" or Courmayeur (Curia Major).' For in his *Alps in Nature and History*, published eleven years later, he writes (on p. 202) that the Col du Géant 'is indicated under the name of "Col Major" on several maps from 1648 onwards, and so must have been known at that time.'

3. A persistent tradition recorded by several travellers in the district before 1787, to the effect that there once existed a direct route between Chamonix and Courmayeur which became impracticable at some indeterminate date in consequence of certain changes in the glaciers.

In other words, Mr. Coolidge asks us to accept his assurance that the Col du Géant, a pass more than 11,000 ft. above sea-level, the crossing of which is still a serious undertaking, was sufficiently well known by the middle of the seventeenth century to be indicated on the best maps of Savoy as a practicable route for travellers, and that it was regarded by the French military authorities throughout the eighteenth century as a route of some strategic importance. Although conscious of my temerity in venturing to differ with the most learned of our Alpine historians, I shall endeavour in the present paper to show first of all that the Col Major and the Col du Géant were unquestionably two very different passes; and, secondly, that the legend of the abandoned route between Chamonix and Courmayeur is hardly worthy of serious consideration, except, perhaps, to students of Alpine folk-lore.

#### THE COL MAJOR OF THE OLD MAPS.

The eminent Genevese geologist, Professor Alphonse Favre, seems to have been the first to assert in unmistakable terms that the pass indicated on the old maps under this name was none other than the Col du Géant.<sup>2</sup> In his great work on the geology of the Mont Blanc district, published in 1867, we read :

‘ Il paraît qu’à l’époque où le savant genevois [de Saussure] explorait les Alpes, ce col était peu connu. Lui-même, malgré ses nombreuses courses, semble en avoir longtemps ignoré l’existence, et ce fut, nous dit-il, M. Exchaquet qui le lui fit connaître. Ce col avait été cependant souvent franchi dans le dix-septième siècle. Sur la carte publiée par Cornélius Dankerts vers 1660, on voit un chemin qui traverse le Col du Géant. Il va de *Chamonys* à *Cormajeur* près *Cramoyen*, par le *Cormajeur* ou *Col Major*. . . . Le nom de . . . *Col Major* fut changé par le Saussure en celui de col du Géant.’<sup>3</sup>

<sup>2</sup> Goffredo Casalis, in his voluminous *Dizionario Geografico . . . degli Stati di S.M. il Re di Sardegna*, vol. iv. p. 548, refers to the legendary pass, and adds that on the old maps it was always indicated, but he does not mention the name Col Major.

<sup>3</sup> *Recherches Géologiques dans les Parties de la Savoie, du Piémont et de la Suisse voisines du Mont Blanc*, 1867, vol. iii. p. 81. Professor



I gather from this extract that Professor Favre, finding a pass indicated as a direct route between Chamonix and Courmayeur on a map issued about 1660, concluded that this route must be the Col du Géant, and consequently that it must have been frequently crossed during the seventeenth century. Such a deduction would be reasonable enough in dealing with a modern map such as the 'Carte Siegfried,' but in the case of a seventeenth-century cartographer it seems to me highly imprudent. Until the close of the eighteenth century the maps of Savoy teem with errors. Practically all the cartographers seem to have known about the range of Mont Blanc was that somewhere between the Val d'Aosta and Lake Lemman there rose a chain of snowy mountains, but for a century and a half they were uncertain as to whether they lay to the N. or S. of the Chamonix valley. Even at a period well within the recollection of living members of the Alpine Club, a great snow-peak, over 13,000 ft. high, was indicated on the best Italian maps as the 'Mont Iseran,' which upon investigation proved to be non-existent. It seems to me, therefore, that in matters of detail the old maps must be regarded as extremely untrustworthy.

Professor Favre's identification of the Col Major was contested a few years later by M. Charles Durier, the author of the well-known monograph on Mont Blanc. In the first edition of his work, published in 1877, he asserted, somewhat hastily, that the supposed track drawn over the Col du Géant on the old maps was merely a frontier line. Finding this explanation unsatisfactory, however, he added a long footnote to a subsequent edition, in which he made light of Professor Favre's credulity. The seventeenth-century cartographers, he wrote, were under the impression that 'les

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Favre's statement that de Saussure deliberately changed the name of the Col Major to Col du Géant is repeated by Mr. Coolidge (*J.S.A.C.*, 1901, p. 266), who adds that, in his opinion, the change is to be regretted. As a matter of fact, there is no reason to believe that the great naturalist understood the Col Major to be the Col du Géant. In the course of a careful examination of his unpublished papers and diaries, I have never come across a single mention of the former pass. In a letter to his wife, written on the Col du Géant on July 3, 1788, he says: 'I have rebaptised this mountain. It has been called the Tacul, which is seven leagues off, while it is quite close to the splendid Aiguille du Géant, which is visible from Genthod. All the guides approve this change. . . .' See Mr. Freshfield's *Life of H. B. de Saussure*, p. 254.

Glacières' (the range of Mont Blanc) lay to the N. of the Arve valley; hence they saw no difficulty in connecting Chamonix and Courmayeur by a direct route, and he pointed out the important fact that the Col Major disappears from the maps of Savoy precisely at the time when the cartographers first began to delineate the Mont Blanc district with some degree of accuracy. As they failed to indicate on their maps the old route from Courmayeur to Chamonix by the Col Ferret and the Col de la Forclaz, M. Durier suggested that they very likely had in mind those two passes.<sup>4</sup> It is only fair to add that M. Durier's conclusions were based upon a very superficial examination of the question: had he pursued his investigations a little further, I have no doubt that he would have hit on the solution of the problem set forth in the following pages.

Mr. Freshfield, in his remarkable paper on the history of the Buet, in the *ALPINE JOURNAL* vol. ix, has also expressed the opinion that the old maps and the legend of the abandoned pass cannot be accepted as conclusive evidence that the Col du Géant was known in early times, although he thinks it possible that it may have been crossed occasionally by chamois hunters, smugglers or refugees before the first recorded passage in 1787.<sup>5</sup>

With the exception of M. Durier and Mr. Freshfield, no one has, as far as I am aware, seriously questioned the views set forth by Professor Favre. The Col Major-Col du Géant theory has found in Mr. Coolidge an able and tenacious advocate who has brought to bear on the subject a wealth of erudition for which I can only express my warmest admiration. In recent years Mr. Coolidge has reiterated his firm belief that the Col du Géant was formerly known as the Col Major so persistently that it now appears to be generally accepted by writers on Alpine history as an established fact. M. Henri Ferrand, our distinguished honorary member, has also expressed the same opinion on several occasions; <sup>6</sup> and M. Louis

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<sup>4</sup> See *Le Mont-Blanc*, 1877, p. 485, and 3rd edition, 1881, pp. 41-42.

<sup>5</sup> In his *Life of H. B. de Saussure* (1920), pp. 241-244, Mr. Freshfield again dismisses the legend as uncertain proof, and suggests that the Col Major indicated on the old maps is either a cartographer's or a copyist's error.

<sup>6</sup> See *Bull. de Géographie Historique et Descriptive*, 1906; and *La Montagne*, 1911, pp. 617-634.

Kurz, in the last edition of his admirable guide to the range of Mont Blanc, published in 1914, writes with regard to the Col du Géant, 'C'est le Col Major des anciennes cartes 1647-1787.'

The earliest mention of this mysterious pass that I have met with, personally, occurs on three maps by the celebrated cartographer, Nicholas Sanson, entitled :

(1) Haute Lombardie et Pays Circonvoisins où sont la Savoye, etc., dated 1647.

(2) Les Suisses, les Alliés des Suisses, leurs Sujets, etc., dated 1648.

(3) Le Gouvernement Général du Dauphiné et des Pays Circonvoisins où sont la Savoye, etc., dated 1652.

On the first of these our pass is indicated by a small cross between Chamonix and Courmayeur, and considerably to the E. of 'les Glacières,' under the name of *Col Major ou Cormoyeu*. On the second the name reads *Col Maior ou Cormoyeu*. On the third map well-defined tracks are drawn over the principal passes. Starting from Aosta one leads over the Great St. Bernard; the next (to the W.) leads by *Cormoyeu* over the *Col Major ou de Cormoyeu* to *Chamony*, and thence along the right bank of the Arve to Passy; while the third and fourth cross the Little St. Bernard and the Col de Grisanche (Col du Mont) respectively.\*

At first sight the pass thus indicated undoubtedly appears

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\* The Col Major is indicated by other cartographers as *Cell Major* (Sandrart's *Ducatus Sabaudiae*, circa 1670); *Cormajeur*, *Colmaior* (P. Lea's *New Map of the Dukedom of Savoy*, 1690); *Colmaior* (W. Berry's *Kingdom of France*, 1680); *Colmaior, Cormoyeu* (Jaillot's *Royaume de France*, circa 1710); *Col de Cormoyeu* (F. de Witt's *Carta Nova Accurata del Passagio et Strade dalli Paesi Bassi per via de Allemagna*, 1671), while Courmayeur is variously written *Cormajor*, *Cortemaggiore*, *Cormoyeu*, *Cramoyen*, *Curia Major*, *Courmaior*, &c. On several maps the name Col Major ou Cormoyeu seems to be attributed to the village of Courmayeur rather than to a pass. It is quite possible therefore that 'Col' is merely a corruption of, or a copyist's error for, 'Curia.' Bordier (*Voyage Pittoresque aux Glacières de Savoye*, 1773, p. 254) refers to 'Col Mayor ou Cormoyeu' in the Val d'Aosta as a village. Ch. Denina (*Tableau . . . de la Haute Italie et des Alpes qui l'entourent*, 1805, p. 173) says: 'Le nom de *Cour-Mayour*, fait par corruption de *Colle Majore*, ou peut-être, suivant M. Bourrit, de *Curia*, or *Corte* (pour *Cohorte*) *Majore*.' . . .

to be none other than our Col du Géant, for the track leads direct from Courmayeur to Chamonix instead of describing a long curve around 'les Glacières.' But if the three maps are examined attentively it will be seen that there is no trace of the mule paths leading from Courmayeur to Chamonix around the range of Mont Blanc by the Col Ferret and the Col de la Forclaz to the E., and the Col de la Seigne and the Col du Bonhomme to the W. Yet the history of these passes can be traced far back into the middle ages.

After examining a large number of old maps on which the Col Major is indicated, it seems to me that the only conclusion we can safely draw is that Sanson and his successors knew that there was a route between Aosta and the Arve Valley which crossed the main chain of the Alps somewhere between the two St. Bernards. Now in the seventeenth century, as well as at the present time, the most convenient route for a traveller proceeding on horseback from Aosta to Bonneville would be by Courmayeur over the Col de la Seigne to Chapieux, and thence over the Col du Bonhomme and down the valleys of Montjoie and the Arve. And this, I think, is unquestionably the route which the cartographers for a hundred and fifty years understood to be the Col Major. That Sanson could possibly have intended to indicate as a practicable route for travellers such a pass as the Col du Géant, instead of an easy mule-path which lay near at hand, is utterly inconceivable. If the track is drawn on his 1652 map in a more or less straight line between Chamonix and Courmayeur instead of making it pass by Chapieux, Plan des Dames,\* and Notre Dame de la Gorge, the mistake

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\* De Saussure describes the Plan des Dames, as follows, in his *Voyages dans les Alpes*, sect. 760-761: ' . . . on entre dans une plaine plus que demi circulaire, fermée par les rochers du Bon-Homme et autres cimes qui y tiennent, et couverte d'un beau tapis de gazon. C'est la plaine ou *Plan des Dames*. Je ne doute point qu'elle n'ait été anciennement consacrée à Jupiter, ce nom et celui de Val de Mont Joye que porte la vallée qui y conduit, ne permettent pas d'en douter. La belle verdure qui la couvre et l'enceinte de rochers qui la renferment, sembloient inviter à y construire un temple ou un hospice; je n'ai cependant pu en trouver aucun vestige. . . . On voit au milieu de cette plaine un monceau de pierres de forme conique de 10 à 20 pieds de hauteur, sur 15 à 20 de diamètre. Sous ce monceau de pierres reposent, à ce que porte une ancienne tradition, les corps d'une grande dame et de sa suivante, qui, surprises là par un orage y moururent et furent enterrées sous des débris de rochers. Ce monceau s'augmente d'un jour à l'autre,

must be attributed to his ignorance of the topography of the district or his carelessness as a draftsman.

It is a well-known fact that the early cartographers were notorious plagiarists. Until the beginning of the last century most of them copied, without acknowledgment, the errors as well as the improvements of their predecessors and contemporaries. Moreover, during the period we have to deal with, astonishingly little progress was made in the delineation of the Alps of Savoy. Hence it is not at all surprising to find Sanson's mistake regarding the Col Major reproduced in a long series of maps during the ensuing hundred and fifty years. On Borgonio's great map of the States of the Duke of Savoy, published in 1688, the Col Major is omitted. But it soon reappears, however, on Hubert Jaillot's '*Estats de Savoye et de Piémont*,' in 1690. On this map a broad track, which might easily be mistaken for a carriage road, leads from Aosta by *Doulina* (Dollone, a hamlet near Courmayeur) over the Col Major to *Chamunis*, and thence along the right bank of the Arve to Bonneville, La Roche, and Bonne. The name *Plan des Dames* appears in large letters between *Champion* (Chapieux) and Notre Dame de la Gorge, but there is no sign of either the Seigne or the Bonhomme passes. It is not until 1772, when Stagnoni issued his revised edition of Borgonio's map, that we find the last-mentioned passes clearly indicated for the first time. On this map the track leads from Aosta by *Dolina* (Dollone) over the Col de l'*Allée Blanche* to *Compiet* (Chapieux), whence a route branches off to the N., crossing the *Mont de la Sacha*, underneath which name we read *Bonome*, to Notre Dame de la Gorge, and thence on to Bonneville and Geneva; and the Col Major former track is omitted. From this date the Col Major as a direct route between Courmayeur and Chamonix gradually disappears from the maps of Savoy, and is replaced by the Col de la Seigne and the Col du Bonhomme. In 1790, on the map accompanying the '*Itinéraire de la Vallée de Chamouni*,' by Berthoud van Berchem and dedicated to de Saussure, we find the Col du Géant indicated for the first time as the *Route de Cormayor et situation de la Cabane de Mr. de Saussure*. It is interesting to note

parce que c'est l'usage que tous ceux qui passent là jettent une pierre sur ce tombeau.'

It is strange, to say the least, that a small uninhabited plain should be mentioned in large letters, apparently as an important place, on the principal maps of Savoy for more than a century and a half.

that this little map, which is entitled 'Carte en Perspective de la Vallée de Chamouni et des Montagnes avoisinantes dans le Haut Faucigny,' was drawn by the young Vaudois engineer Charles-François Exchaquet, who, as we shall see further on, made in 1787 the first passage by a traveller of the Col du Géant.

#### THE COL MAJOR OF THE 'INGÉNIEURS-GÉOGRAPHES.'

The topographical service of the French Army known as the corps of 'ingénieurs-géographes' was founded in 1691 by Vauban, the celebrated minister of war of Louis XIV. From that date until the outbreak of the Revolution the task of mapping and reconnoitring, from a military point of view, the Alpine and Pyrenean frontiers was carried on by a series of engineers of exceptional competence and energy. A few of them, such as La Blotière, Bourcet, and Montannel, acquired in the course of many years' work in the field a knowledge of the Alps from the Mediterranean to Lake Lemman which probably remained unequalled until the days of John Ball and F. F. Tuckett a century later. Their maps were usually accompanied by detailed reports or memoirs on the routes and passes of the Alps containing information likely to be of use in time of war; but unfortunately only a few of these documents have been published. They give the impression of being compilations rather than the work of individual writers, and in many cases there can be no doubt that memoirs drawn up early in the eighteenth century were subjected to continual revision by the authors' successors and not infrequently reissued under the names of the last engineers who revised them. Moreover, a certain amount of the information they contain regarding passes in foreign territory must necessarily have been obtained at second hand; consequently one finds in them here and there obscure passages which it is by no means easy to interpret satisfactorily.<sup>9</sup> I give below in chronological order all the references to the Col Major in the memoirs of the 'ingénieurs-géographes' that have come to my knowledge.

BRUNET DE L'ARGENTIÈRE, 1742.—*Communications entre le Briançonnais, la Savoie et le Piémont.*<sup>10</sup>

\* See *Les Ingénieurs-Géographes Militaires: Études Historiques par le Colonel Arvers*, 2 vols., Paris, 1902.

<sup>10</sup> An unpublished MS. in the library of M. Paul Guillemin at Cervières, near Briançon, to whom I am much indebted for per-

According to this writer three streams meet at the village of Chapieux :

‘ Le premier ruisseau vient du centre qui est un grand et rapide penchant de pâturages pelouses où il y a plusieurs cabanes de bergers ; au sommet est le col du Bonhomme qui va à Notre Dame de la Gorge dans le haut Foussigny.

‘ Le deuxième vient de la droite appelée les blanches à l’extrémité de laquelle est le Col Mayor ; du Chapieu sur le col il faut deux heures et de dessus la montagne à la paroisse du Col Mayor près de Morges, vallée d’Aouste, il faut six heures ; ce chemin est mauvais et peu fréquenté.

Le troisième ruisseau vient de la gauche d’une gorge où est le col ou pas de Rosselin, qui du Chapieu va à Beaufort et où il passe en été des mulets chargés de fromages. . . .’

The pass described here as the Col Mayor or Col Major is unquestionably the Col de la Seigne. The name ‘ les blanches ’ (*Laix Blanche*) is attributed to the ridge or the summit of the pass, in which the writer agrees with P. A. Arnod, who in his description of the route from Chapieux to Courmayeur written between 1691 and 1694, writes : ‘ Ce terrain monte insensiblement jusqu’à la cime appelée la Laix Blanche de Courmayeur. ’ <sup>11</sup> The ‘ times ’ given by our author are also fairly correct as he counts eight hours from Chapieux to Courmayeur, whereas according to the last edition of Murray’s Handbook (1909) the journey requires seven hours and a half.

The next reference by the same author to the Col Major is less clear. Descending the Montjoie Valley, Brunet de l’Argentière writes :

‘ En descendant à la gauche du Bonan [Bon Nant] (jusques vis-à-vis le village de Condamines) on le passe sur le pont de Tadiou ; on laisse un chemin qui va de Beaufort, passant par St. Nicolas de Vérouse et les montagnes qui sont au dessus ;

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mission to quote it. Some extracts from another MS. copy of this memoir were published in *A.J.* vol. x. pp. 275–278, by M. Henri Duhamel. Jean Brunet (1700–1755) was a ‘ commissaire des guerres ’ rather than a topographical engineer. A valuable memoir by him entitled *Le Briançonnais en 1754*, with an introduction by M. Guillemin will be found in the *Ann. de la Soc. des Touristes du Dauphiné*, 1892 : and Colonel de Rochas d’Aiglun has also reprinted as a separate pamphlet his *Mémoire de la Guerre sur les Frontières du Dauphiné et de la Savoie de 1742 à 1747*, Paris, 1887.

<sup>11</sup> *Josias Simler et les Origines de l’Alpinisme*, p. \*270.

de ce pont on arrive au village de Dioné [Bionnay] entre lequel et St. Gervais il y a un ruisseau qui grossit le Bonan et qui vient des glaciers qui le séparent de la Val d'Aouste et qui régneront depuis le Col du Bonhomme jusques Chamony sans qu'il y aye aucun passage praticable pour traverser du Foussigny dans la vallée d'Aouste : celui que plusieurs cartes et mémoires marquent de Col Mayor à Salanches et qui formoit une branche du col de ce nom parallèle à celle qui y va du Chapieu n'existe plus depuis longtemps, ayant été bouché par des éboulements des glaciers.'

It would seem from this that the author was under the impression that there were two parallel routes both known as the Col Major. One of these he identifies as the Col de la Seigne, while he understood the other to be a pass situated further to the east which had become impracticable many years earlier. I shall refer to this abandoned pass further on in quoting the memoir by Montannel.

LIEUT.-GENERAL P. J. DE BOURCET, 1752.—*Mémoire de M. Bourcet relatif à sa carte manuscrite des Passages des Alpes*.<sup>12</sup>

On pages 118-119 of this memoir we find the following description of the Aosta valley :

' Cette vallée est fermée à son extrémité du côté du Piémont, par le château de Bard, et par Ivrée qui sont deux places fortifiées appartenant au roi de Sardaigne, et qui demandent des précautions considérables pour être assujetties. On n'y communique de la Savoie que par les cols du Grand et Petit St. Bernard et par les cols Major et de Grisanche.

' *Le Grand St. Bernard* est un col assez ouvert, on peut y passer avec des bêtes de charge. . . .

' *Le Petit St. Bernard* est au-dessus du village de St. Maurice dans la Haute Tarentaise ; il est très praticable pour les chevaux et les bêtes de charge. . . .

' *Le Col Major* est long et difficile, on ne peut se promettre de communiquer de Salanche et Chamunis (en Faucigny), à Morges, dans la vallée d'Aost, en moins de deux grandes

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<sup>12</sup> This memoir is printed in *Voyage d'Inspection de la Frontière des Alpes en 1752 par le Marquis de Paulmy*, with an introduction by M. Henry Duhamel, Grenoble, 1902. Pierre-Joseph de Bourcet (1700-1780) was by far the most eminent of the 'ingénieurs-géographes.' See *Les Bourcet et leur Rôle dans les Guerres Alpines*, by Colonel de Rochas d'Aiglun, Paris, 1895.



journées de marche et par des défilés considérables où l'on ne trouve aucune habitation.<sup>13</sup>

Le col de Grisanche communique de la plaine de Sexte, par Ste Foy, à Derbe et à la Cité d'Aost ; mais ce col n'est praticable que pour les gens de pied.'

As the Col Major is described in the above extract as the *only* route between Aosta and the Faucigny, it is, I think, obvious that Bourcet had in mind the mule track over the Col de la Seigne and the Col du Bonhomme. Mr. Coolidge quotes the lines referring to the Col Major without the context as an early account of the Col du Géant,<sup>14</sup> but it would seem from Bourcet's definition of the term 'col' that he used it in the sense of a passage free from snow during the summer months, and of easy access, a description which can hardly be applied to a difficult glacier pass. He writes :

'La plaine de Piémont est séparée de la Savoie, du Dauphiné et de la Provence par des montagnes fort élevées qui n'en permettent l'entrée que par des chemins très difficiles, au travers de ces mêmes montagnes. Ces chemins s'appellent du nom général de cols ; les uns sont praticables pour des voitures et peuvent servir au transport de l'artillerie ; les autres ne le sont que pour les bêtes de charge, et les plus difficiles ne sont praticables que pour les gens de pied. Mais tous sont fermés pendant près de huit mois de l'année par les neiges, en sorte que l'on ne saurait entreprendre un passage au travers les Alpes que pendant les quatre mois de juin, juillet août et septembre ; à la vérité dans ce temps-là on communique facilement partout.'

MARQUIS DE SAINT-SIMON, 1759.—*Histoire de la Guerre des Alpes . . . de 1744, &c.* Amsterdam, 1759, p. 33.

'On n'arrive à la vallée d'Aoste que par le Col du Grand St. Bernard, le Col Major, et ceux du Petit St. Bernard et de Grisanche : elle est fermée vers son débouché dans le Piémont par les châteaux de Bard et d'Yvrée.

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<sup>13</sup> Compare this with Bourrit's description of the route from Nant Borrant to Chapieux in 1774 :

'Nous ne pûmes cependant quitter cette frêle habitation sans regrets ; c'étoit la dernière demeure des hommes ; nous n'en devions plus trouver pendant neuf lieues de marche qui nous restoient à faire dans cette journée.'—*Description des Aspects du Mont-Blanc*, p. 29.

<sup>14</sup> *Revue Alpine*, 1913, p. 246.

'Le Grand St. Bernard est un col assez ouvert, où l'on peut passer avec des bêtes de charge. . . .

'Le Col du Petit St. Bernard est audessus du village de St. Maurice sur l'Isère dans la haute Tarentaise ; les bêtes de charge y peuvent passer. . . .

Le Col Major entre les Cols du Grand et du Petit St. Bernard est long et difficile et communique à Chamouni en Faucigny ; il arrive à Morges après deux grandes journées de marche dans des défilés continuels et sans habitation ; c'est par là que l'on croit que les romains ont passé. . . .

'Le Col de Grisanche communique par une petite plaine à Ste Foy et Sale, un peu au dessous de Morges ; ces deux défilés pour entrer dans la vallée d'Aoste sont si difficiles qu'ils ne peuvent servir qu'aux gens de pied et qu'un cheval y peut à peine suivre son cavalier.'

Here again we find the Col Major described as the only pass between the Aosta valley and the Faucigny ; consequently there can be no doubt that M. de Saint-Simon referred to the Seigne and Bonhomme passes. Mr. Coolidge, in quoting the lines referring to the Col Major as an early account of the Col du Géant, omits the concluding paragraphs in which the writer says the last-mentioned passes are so difficult that a horse can scarcely follow its master over them.<sup>15</sup>

MARQUIS DE PEZAY, 1775.—*Noms, Situations et Détails des Vallées de la France le long des Grandes Alpes . . . et de celles qui descendent des Alpes en Italie*, with a preface by M. Henri Duhamel, Grenoble, 1894.

On page 60 M. de Pezay writes that the Aosta valley can be reached only by the Faucigny and the Tarentaise.

'De la Tarentaise,' he continues, 'on débouche par les cols du Petit Saint-Bernard et de Grisanche ; mais du Faucigny on ne peut y déboucher que par le seul Col Major, qui est long et difficile. De sorte que, pour entreprendre sur la val d'Aoste, il faut nécessairement occuper la Tarentaise et ne se servir du Faucigny que pour quelque détachement particulier.'

In the above extract M. de Pezay agrees with General de Bourcet and the Marquis de Saint-Simon in describing the Col Major as the only route connecting the Faucigny and the Aosta valley, or in other words as the mule track from Aosta to Bonneville by the Col du Bonhomme and the Col de la Seigne. On the next page he discusses the possibility of sending troops

<sup>15</sup> *Revue Alpine*, 1913, p. 246.

into the Aosta valley by the little St. Bernard and the Col Major, which I think proves conclusively that he did not understand the Col Major to be the Col du Géant.

MONTANNEL, 1776.—*La Topographie Militaire de la Frontière des Alpes. Editée par les soins de M. A. Rochas d'Aiglun, Grenoble, 1875.*

On pages 8–11, in a list of some sixty passes along the main chain of the Alps, we find the following reference to the Col Major :

‘ Il y a encore au delà de ce dernier col [le petit St. Bernard] et sur la grande chaîne des Alpes, le Col de l'Allée Blanche et le Col Major. Ce dernier n'est plus susceptible de passage ; les pluies et la fonte des neiges l'ont rompu. Au delà du Col Major est celui du Grand St. Bernard.’

Again on page 188 the author considers the pass from a military point of view :

‘ L'ennemi peut aussi venir de la Valdost au Chapuy sans passer par le Petit St. Bernard. Pour cet effet, il n'a que passer l'endroit appelé l'Allée Blanche et par celui que l'on nomme les Glaciers et tomber de là sur Chapuy ; mais il ne peut faire usage de cette route, à cause des neiges, que deux mois de l'année. Enfin si l'ennemi accommodait le Col Major, qui est actuellement tout dégradé et impraticable, il pourrait venir par ce col de la Valdost dans la vallée de Faussigny ; mais ce chemin serait des plus rudes et praticable seulement deux mois de l'année, en sorte qu'il n'est guère probable que cet ennemi passe jamais le Col Major dans l'objet de venir sur le Rhône en corps d'armée. Je ne dis pas de même du Grand St. Bernard. . . . Au reste le chemin qui passerait le Col Major tomberait sur Chamunis, de là il viendrait à la Cluze. . . .’

Finally on page 193 we read :

‘ Le Col Major est entièrement ruiné ; les habitants de Sallanches m'ont dit en 1769 qu'on n'y passait plus depuis trente ans.’

Mr. Coolidge maintains that the Col Major described in the above extracts is undoubtedly the Col du Géant, but it is obvious, I think, that the author refers to a pass over which there was a mule track or at least a path. And I fail to see how a glacier pass like the Col du Géant could be affected either by rain or melting snow, or how it could possibly be *put in order* by a Piedmontese army.

As a matter of fact Montannel was very probably misled by

the old maps, with which, as a topographical engineer, he must have been familiar; and his knowledge of the district was moreover extremely vague. He crossed the Col du Bonhomme, it is true, and explored the immediate neighbourhood of the Little St. Bernard, but we may be certain that he did not visit either Chamonix or Courmayeur, otherwise he would have discovered at once the absurdity of supposing that the two villages were connected by a direct route.<sup>16</sup>

We have seen that Brunet de l'Argentière, writing in 1742, says the Col Major had been closed many years earlier by 'des éboulements des glaciers.' This is confirmed by Montannel, who writes that in 1769 he was told at Sallanches that the pass was completely ruined and that it had not been crossed for thirty years.

These two statements are supposed to corroborate the story so long current on both sides of the range of Mont Blanc that there was once a direct route over the glaciers from Chamonix to Courmayeur. But it seems highly probable, on the contrary, that our two authors refer to a very different pass. There are reasons for believing that there was a route leading from the Montjoie valley into the Allée Blanche which was abandoned

<sup>16</sup> Michel-Jean-Auguste Cruels, *dit de Montannel* (1714–1785). See Colonel de Rochas d'Aiglun's *Les Bourcet etc.*, p. 22. In a letter from the Chevalier de Janvres to H. B. de Saussure, dated February 6, 1780, which has recently been communicated to me by M. Raymond de Saussure, I find the following interesting reference to Montannel:

'Je suis fâché de n'avoir pas eu l'idée dans votre passage en cette ville [Grenoble] de vous avoir fait faire connoissance avec un ingénieur géographe de cette ville nommé M<sup>r</sup> de Montannel, qui a parcouru toutes les Alpes, et qui les a toutes dessinées en vue d'oiseau telle que la dernière planche de votre 1<sup>re</sup> tome. Les dites cartes sont très grandes et entrent dans les détails très circonstanciés pour pouvoir servir à un général d'armée qui seroit chargé de la conduite des troupes. Cet ouvrage unique est accompagné de 3 gros manuscrits qui contiennent ses observations; il destine ses ouvrages au Roy, cependant je crois qu'il ne seroit pas facile de le détourner de cette idée si un particulier vouloit en faire l'acquisition. Il n'est pas intéressé, mais sa santé est si délabré qu'il seroit à propos qu'il se mît dans une certain aisance pour la soigner. Si vous repassez dans ce pays, je vous le ferois connoître et je suis garant du plaisir que vous aurez à l'aspect de ses cartes qui embrassent depuis le cours du Var jusques et au delà du lac de Genève. Il n'est pas l'ami de M. Bourcet, il prétend que c'est sur les connoissances qu'il lui a donné que notre commandant doit la haute réputation qu'il s'est acquise dans la connoissance de nos montagnes.'

in the first half of the eighteenth century in consequence of certain changes in the glaciers.

Dr. A. Matthey, a Genevese physician who practised for many years at St. Gervais-les-Bains, writes in 1818 in a description of the Glacier de Miage Français :

‘ On traversoit autrefois ce glacier pour aller à Cormayeur ; on y alloit en six heures : cette route n’est plus praticable aujourd’hui. ’<sup>17</sup>

And in 1826 we read in a work on Switzerland by the French traveller Raoul-Rochette :

‘ Ce glacier de Miage offre une autre singularité. Il n’y pas longtemps qu’on pouvait le traverser dans toute son étendue, sans beaucoup de difficultés ; et M. Gontard, qui connaît si bien la région, m’assura qu’on se rendait par cette route de St. Gervais à Courmayeur en six heures de temps. Il paraît même qu’à l’époque où la France cherchait à s’assurer l’empire de l’Italie, au moyen des communications les plus promptes et les plus directes, un projet fut conçu pour ouvrir, par le glacier de Miage, une route militaire qui eût pu conduire en un jour de Genève à Turin. On croyait n’avoir affaire ici qu’à la nature, et l’homme qui foulait sous ses pieds tous les trônes, ne devait pas s’attendre à être arrêté par les Alpes. Des ingénieurs furent envoyés sur les lieux : un directeur-général s’y rendit en poste de Paris ; et le glacier fut sondé dans tout son cours. Mais cette entreprise gigantesque n’eut pas d’autre résultat. Dans l’interval de quelques années, les glaces s’étaient accumulées, au point d’opposer des obstacles insurmontables à tout effort humain ; la puissance de celui qui ne connaissait pas de borne à sa fortune, recula devant cette barrière inattendue, et aujourd’hui, cette route, qui s’est trouvée fermée pour un conquérant, n’est plus praticable que pour le montagnard. ’<sup>18</sup>

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<sup>17</sup> *Les Bains de Saint-Gervais, près du Mont-Blanc*, Genève, 1818, p. 25.

<sup>18</sup> *Lettres sur la Suisse*, Paris 1826, vol. iii. p. 304. On pages 379-380 Montannel gives the following account of the Mont Blanc chain :

‘ Cette chaîne, après avoir montré vers son milieu une haute pointe appelée le Mont Maudit, se termine sur l’Arve au-dessous de la Bonneville. On ne peut rien voir de plus affreux que cette chaîne, particulièrement vers Chamounix ; on trouve là un glacier éternel où la neige paraît toute l’année. Il y a sur cette chaîne un passage par lequel on peut, malgré cela, aller à cheval, et après que les neiges sont fondues, depuis la Bonneville jusqu’à celle de

If there is any truth in the tradition thus recorded by Dr. Matthey and M. Raoul-Rochette, the abandoned pass between St. Gervais and Courmayeur they mention can only be identified as the Col de Miage. It is quite possible, therefore, that Brunet de l'Argentière and Montannel may have heard vague stories about this legendary pass in Sallanches or St. Gervais and assumed without further investigation that it was the route indicated on their maps as the Col Major.

A more plausible solution of the problem is suggested by a few lines in the diary of Mr. A. T. Malkin, an early member of the Alpine Club who crossed the Col du Bonhomme in 1845. At the village of Nant Borrant he writes :

'A passage formerly led by the Trelanlai [Trélatête ?] and Miage Glaciers from this spot into the Allée Blanche. The keeper of the chalet told me seriously that a company had been talked of to re-arrange the route, which, he said, half a dozen men might soon do, by cutting stairs here and there in the rocks, the change in the glacier having rendered the old route impassable. It must be very high, probably 11,000 feet.' ('A.J.' vol. xv. p. 125.)

Mr. Coolidge suggests that this pass was very likely the Col dit Infranchissable. But it seems to me far more probable that Mr. Malkin refers to the Col du Mont Tondu, which is described in the first edition of the *Alpine Guide* as the Col de Trélatête. In the new edition (1878) Mr. Ball says this route saves not less than five hours on the way to Chapieux, which is doubtless an exaggeration although it must be several hours shorter than the Col du Bonhomme or the Col des Fours.

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Saint-Maurice sur le Rhône. Cette communication passe par Taninge, Samoëns, Champerey et Trétouren. Ces deux derniers villages appartiennent au Valais. Il est à remarquer que cette communication laisse le mont Maudit à sa gauche, du moins quand on va de la Bonneville à Saint-Maurice.'

The peak described here as Mont Maudit is unquestionably Mont Blanc. Yet our author says that a traveller proceeding from Bonneville via Taninges, Samoëns, the Cols de Golèse and de Coux, Champéry and Trois-Torrents, to Saint-Maurice would pass the Mont Maudit on the left. As a matter of fact, Montannel was undoubtedly misled by the mistake of a large number of seventeenth and eighteenth century cartographers in placing the 'Glacières' to the N. of the Chamonix Valley. On Jaillot's *Les Duchés de Savoie, de Genevois, de Chablais, etc.*, the Mont Maudit is placed to the N. of Morzine and Samoëns and due W. of Champéry. Had Montannel ventured into the Chamonix Valley he would certainly have discovered at once this error.

'The last ascent,' he adds, 'is made up a face of rock which appears alarmingly steep to those who approach it from the opposite direction, but the stair-like ledges make it quite free from difficulty.'

COLONEL BROSSIER, 1800.<sup>19</sup>—*Notes Descriptives sur tous les Cols et Passages qui communiquent de France en Piémont, depuis le Col Ferret jusques au Col des Trois-Evêques.*

In the preface to this memoir dated Grenoble, 13 Pluviose, An VIII, (February 2, 1800), the author says he was employed on the frontier from 1796 to 1799. He adds that in the preparation of his work he consulted various memoirs by La Blottière, Bourcet, etc., as well as the principal maps of France and Savoie. Consequently it seems to me that his opinion regarding the identity of the Col Major is decisive. Now the heading of Colonel Brossier's account of the Col de la Seigne reads :

'Col de la Seigne ou de l'Allée Blanche, indiqué dans plusieurs cartes et mémoires sous le nom de Col Major.'

LIEUT.-GENERAL P. J. DE BOURCET, 1802.<sup>20</sup>—*Mémoires Militaires sur les Frontières de la France, du Piémont et de la Savoie, depuis l'Embouchure du Var jusqu'au Lac de Genève. Paris et Strasbourg, An X (1802).*

On pages 40 and 158 the author mentions separately both the Col du Bonhomme and the Col de la Seigne ; but on page 160, under the heading 'Chemins qui, de la Tarentaise, vont dans la Savoie, le Faussigny et le Piémont,' we read :

'De Chapières [Chapieux] l'on peut encore entrer dans la vallée d'Aoust, en passant par Gloenier [Glaciers], l'Allée-blanche, le col Major et Doulina [Dollone], d'où l'on va à Morges.'

Here the Col Major is clearly the Col de la Seigne. Yet, curiously enough, on the map accompanying the volume we

<sup>19</sup> An unpublished MS. in the library of the late M. Henry Duhamel at Gières, near Grenoble. Simon-Pierre Brossier (1751-?) entered the corps of 'ingénieurs-géographes' in 1775 and rose to the rank of 'maréchal des camps.' See *Campagne de l'Armée de Réserve, Passage du Grand St. Bernard par le Capitaine Cugnac*, Paris 1900, p. 373.

<sup>20</sup> Although published under the name of General de Bourcet it is by no means certain that the memoirs in this volume were written by him. The first, which I have quoted above, is generally attributed to La Blottière, and is said to have been written about 1713. It must have been frequently revised however, as it contains many references to events which occurred as late as 1745.

find a direct route between Courmayeur and Chamonix indicated as the 'Col de Malay,' a name very likely invented in 1802 by the editor of the volume. On page 160 we find the following footnote by the editor :

'M. de Bourcet ne parle point du col de Malay dans ses mémoires ; c'est ce qui nous a fait douter de son existence, comme nous l'avons dit dans la table à l'article de ce col.'

And in the table at the end of the volume (page 349) he adds :

'Quelques cartes assez estimées ayant indiqué ce col on l'a conservé, par respect pour elles, quoiqu'on n'en ait d'ailleurs aucune connoissance et que les glaciers du Mont-Blanc rendent son existence très-problématique.'

The foregoing extracts comprise, I believe, all the important references to the Col Major before 1802 that have yet been brought to light. Of the six authorities I have quoted no less than four describe it in unmistakable terms as either the Col de la Seigne or as that pass combined with the Col du Bonhomme ; while two refer vaguely to an abandoned pass somewhere between the Col de la Seigne and the Great St. Bernard and in the neighbourhood of the former, I have shown moreover, that there are excellent reasons for believing that this abandoned pass lay between the Montjoie valley and the Allée Blanche. In any case it seems to me certain that neither the Col Major nor this abandoned route had anything in common with the great glacier pass we now know as the Col du Géant.

*(To be continued.)*

## THE EARLY SWISS PIONEERS OF THE ALPS.

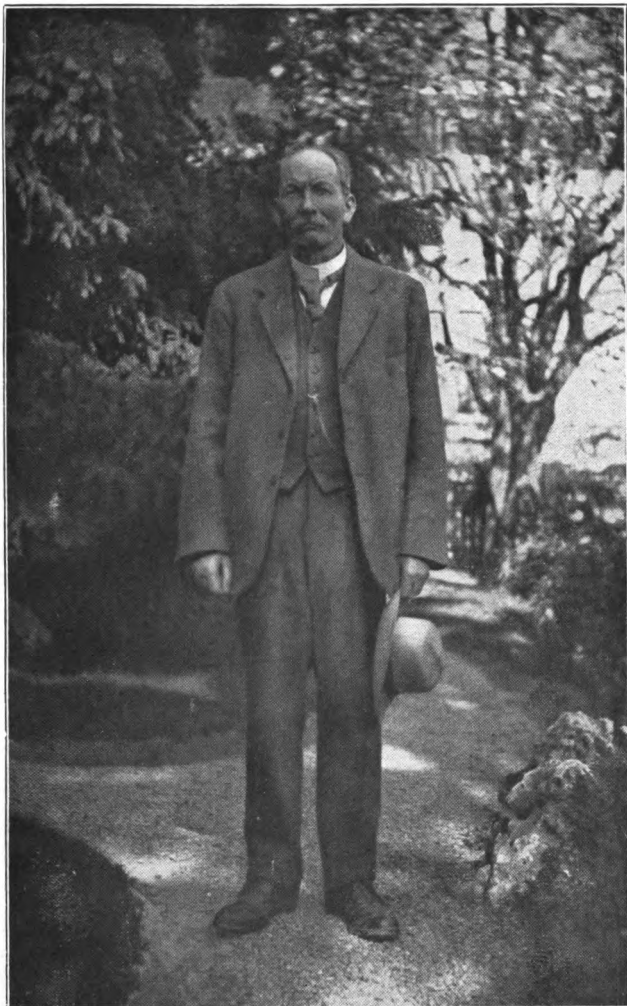
BY DR. H. DÜBI.

*(Continued from p. 234.)*

FRANZ JOSEPH HUGI.

HUGI was born on January 23, 1796, at Grenchen, canton of Soleure, where he was educated, proceeding thence to the universities of Landshut and Vienna. Upon his return he was appointed teacher of natural science at the *Realschule* and principal of the orphanage at Soleure. His work left him time to make long journeys—thus from 1821 onwards





DR. H. DŮBÍ  
1920



he visited the Jura, the Alps, Germany, Hungary, Italy, and Northern Africa, collecting many objects of natural history, which he presented, about 1830, to the museum founded by the town of Soleure at his instigation. He was also founder, and for a long time President, of the Cantonal Society for Natural History and Science. In 1833 he was promoted professor of physic, and in 1835 professor of natural science, at the Gymnasium, which he resigned in 1837, on conversion to Protestantism. He, however, remained director of the Museum, and was in active correspondence with several learned societies in Switzerland and abroad—e.g. the Royal Physical Society of Edinburgh. He died at Soleure on March 25, 1855.

Beside his *Naturhistorische Alpenreise* (1830) and *Ueber das Wesen der Gletscher und Reise in das Eismeer* (1842), he published in his later life books and pamphlets in defence of his theories of glacier phenomena and erratic blocks in answer to the severe criticism of Agassiz and others.

What concern us chiefly are his wanderings in the Alps. I agree with Capt. Farrar<sup>1</sup> that Hugi's work as a mountaineer has been unjustifiably underrated. His itineraries are hard to follow, as in his books he preserves neither chronological nor topographical order. Thus chapter ii. of his *Alpenreise* refers to 1828; the narrative then jumps to chapter iv., p. 92, and then to chapter vi., pp. 170–196. Chapter iii. refers to 1829, the narrative then jumping to chapter vi., p. 196, and then to chapter vii., p. 224.

He first set foot on a glacier in 1822, when he crossed the Tschingelpass from Lauterbrunnen to the Gastern valley.<sup>2</sup> Of an ascent of the Titlis in 1826 we have no details,<sup>3</sup> nor of a journey in 1827, save that he was on the Sefinenfurge and in the Roththal. The campaigns of 1828 and 1829 are fully described in the *Alpenreise*, the preface of which, dated Solothurn, 15 Juli 1830, announces a new expedition for 'the next week,' a few scattered notices of which exist. Details of the tour of 1831 we owe to Gottlieb Studer,<sup>4</sup> Hugi's companion from August 13 to September 1. Hugi himself describes his winter journey of January 1832.<sup>5</sup> He alludes, in 1843, to

<sup>1</sup> *A.J.* xxx. 284, note 12.

<sup>2</sup> F. J. Hugi: *Die Gletscher und die erratischen Blöcke* (Soleure, 1843), p. 8.

<sup>3</sup> *Naturhist. Alpenreise*, p. 260.

<sup>4</sup> *Bergreisen* (18 vols. of MS. diaries by G. Studer, preserved in the library of the Bernese section, S.A.C.), vol. iv. pp. 1–95.

<sup>5</sup> *Winterreise in das Eismeer*, pp. 17–56.

an experience of thirteen years of the glaciers since 1829,<sup>6</sup> but after 1832 we only know of a visit to the Unteraar Glacier in 1836.<sup>7</sup>

These expeditions were carefully planned, and the chapter in the *Alpenreise* describing the outfit of his large caravans is instructive and even amusing. The preparations of the campaigns of 1828, 1829, and 1832 must have caused him much trouble and expense, and compared with the same chapters in Meyer's or Rohrdorf's books the progress, in quantity as well as in quality, of scientific instruments is evident. His equipment included cooking apparatus, blue spectacles, veils, foot-irons, 500 ft. of soft, strong rope, an ice-axe,<sup>8</sup> and a host of paraphernalia.

Hugi's principal companions and guides for the years 1828 and 1829 have been given in Capt. Farrar's article on the Laueners, 'A.J.' xxx. 283-4. Of the guides, J. Leuthold, J. Zemt, Joh. Währen, Andreas Leuthold, J. Moor, P. Baumann gave the greatest satisfaction to their employer. The hunter Hans Lauener accompanied him in 1828 for fifty-two days; Zemt in 1829 for nearly as long.

We will now attempt to follow Hugi in his wanderings. On August 1, 1828, he left Soleure with his staff for Unterseen. They reached Lauterbrunnen next morning, and slept at the Stufensteinalp with the intention of exploring the contact between gneiss and limestone that is so striking a feature of the upper Roththal. They proposed also to examine the route to the Jungfrau, already tried by two of the guides, Peter Bischoff and Christian Lauener, and the passage from the upper Roththal to the Valais. It was not to be. Rain prevented an early start on August 3. In two parties they ascended the Roththal, Hugi with 'the lean old climber,' Peter Bischoff, exploring *en route* a cave in the rocks of the Bärenfluh, which, in my opinion, does not repay the trouble. (I visited it on July 24, 1881, and one of my guides, Peter Lauener, grandson of the above-named Christian, caught a chill from which he suffered during our traverse of the Jungfrau next day and for some time afterwards.<sup>9</sup>)

They continued, in pouring rain, their exploration of the

<sup>6</sup> *Die Gletscher*, etc., p. xv.

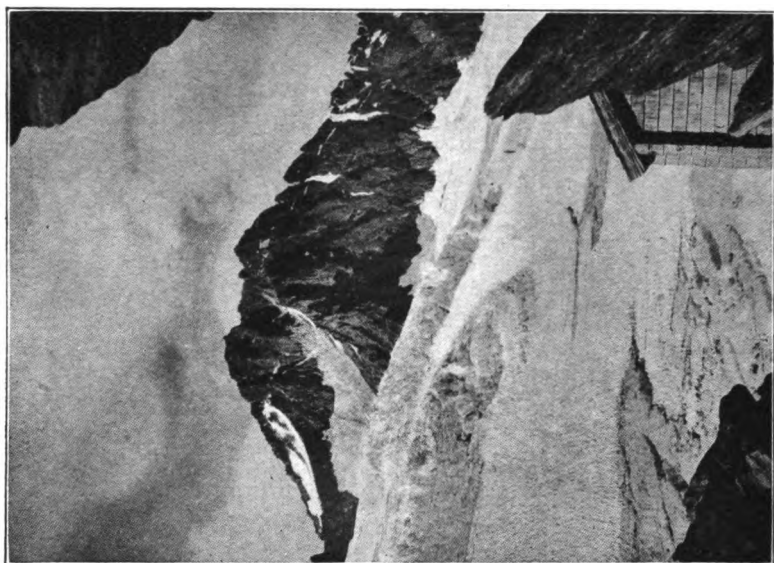
<sup>7</sup> *Ueber das Wesen der Gletscher*, pp. 79, 106.

<sup>8</sup> To judge by the frontispiece of the *Alpenreise*, it had the same form as described by Rohrdorf.

<sup>9</sup> See *S.A.C.J.* xvii. 280-2, and *A.J.* xxxi. 251.



F. J. HUGL  
1829



*Photo V. A. Fynn*

**FINSTERAARHORN**  
**SHOWING THE TWO SUMMITS FROM THE**  
**FINSTERAARHORN HUT**



**HUGI'S PARTY ON THE ROTHHORNSATTEL IN 1829**

Roththal, first on the right bank of the glacier, then along its centre line. Approaching the end of the valley, they saw that 'the northern and eastern walls meet in an angle in which an almost perpendicular narrow strip of glacier descends from behind the Jungfrau.' This seems to indicate the Roththalsattel couloir rather than the Lauithor. Hugi pushed on to the foot of the couloir, but falling snow forced a retreat to the Stufensteinalp. As the weather remained bad, they descended the next day, August 4, to Lauterbrunnen.

A reference to this attempt is found in Fenimore Cooper's 'Excursions in Switzerland' (vol. i. p. 95): 'A gentleman of Soleure got as high as eleven thousand feet the day before our arrival [August 4]. He was driven back by a snowstorm.'

Capt. Farrar has already discussed the attempts on the Jungfrau from the Roththal in two masterly articles,<sup>10</sup> but he has, in a minor point, been misled by Hugi's confused narrative. It may be convenient to insert a short summary here.

The first attempt was made by two unknown Lauterbrunnen men between 1790 and 1808.<sup>11</sup> 'The slab up to which they had got, and whence they did not consider it at all impossible to reach the summit, if provided with the needful to spend the night in the high glacier regions,' was visible from a point high up on the Tschingel Glacier and near the col. The description agrees best with the slabby triangle between my 1881 route and that of the 1885 party, as marked on the above plate.

Much in the same direction was an attempt by Peter Bischoff and Christian Lauener some time before 1828, for, as Hugi<sup>12</sup> says, 'Immediately to the entrance of the Roththal they bore to the left up the rocks.'

The same men, with seven others, were the guides of Messrs. Frederick Slade and Yeats Brown on August 20, 1828, when a determined attempt, as it would seem, by the Roththalsattel couloir, ended 'within a musket shot from the col.'

Of this remarkable expedition we possess two narratives—one in 'A.J.' v. 374, the other in Hugi's *Alpenreise*, pp. 26, 46, and 59-60. We will quote Hugi's words in order to clear up a mistake. Note that Hugi's 1830 book was a hasty

<sup>10</sup> 'The Roththal Face of the Jungfrau,' *A.J.* xxxi. 210 seq.  
<sup>11</sup> 'The Führerbuch of Ulrich Lauener,' *A.J.* xxx. 277 seq.

<sup>12</sup> *A.J.* xxxi. 211, and the plate opposite p. 217.

<sup>13</sup> *Alpenreise*, p. 46.

collection of lectures given between 1827 and 1830, and errors in dates occur. (1) In relating the incidents of his second visit to the Roththal, in August 1828, he refers to 'Places where, *some weeks later*, on an attempt made by two Englishmen to climb the Jungfrau, strength and courage forsook even the natives,' etc.<sup>13</sup> (2) In mentioning the daring attempt of Bischoff and Lauener, he indicates their route as 'up the rocks by which also *a few years earlier* two Englishmen hoped to ascend the Jungfrau.'<sup>14</sup> (3) He writes:<sup>15</sup> 'The ascent by that strip of glacier [the Roththalsattel couloir] seemed possible. *A fortnight later*, in favourable weather, two Englishmen tried it with my guides,' etc.

It is clear that (1) and (3) allude to the attempt on August 20, 1828, by Brown and Slade with the Laueners and Bischoff, and doubtless Hugi got his information from the guides. But what about (2)? Farrar suggests this attempt may be identical with the before-mentioned attempt of the two unknown Lauterbrunnen men before 1808.<sup>16</sup> But this is improbable. L.'s text suggests that the two guides were alone, and Englishmen travelling at a time when Switzerland was in the power of Napoleon must have been rare. Moreover, Hugi's words, 'a few years earlier' than 1828, do not indicate so early a time as 'not later than 1808.' I cannot help thinking that Hugi's 'two Englishmen' were in each case the same, viz. Brown and Slade.<sup>17</sup>

I am compelled to curtail the narrative of the less important part of Hugi's journey which followed.

He left Lauterbrunnen on August 5, and crossed the Little Scheidegg to Grindelwald in bad weather that lasted more or less the whole month, putting up at Wettach's inn.<sup>18</sup>

On the 8th, with five guides and porters, he slept at the Zäsenberg, and next morning started for the Strahlegg. 'Climbing with hands more than with feet' the steep wall,

<sup>13</sup> *Alpenreise*, p. 26.

<sup>14</sup> *Ibid.* p. 46.

<sup>15</sup> *Ibid.* p. 59.

<sup>16</sup> *A.J.* xxxi. 211.

<sup>17</sup> See Fenimore Cooper's *Excursions*, vol. i. p. 95: 'Several parties of English amateurs have attempted to ascend [the Jungfrau]; but they do little more than follow where the guides lead, and publish magnificent books afterwards.'

<sup>18</sup> Probably the 'Bär,' as in 1824, and again in 1832, a Samuel Blatter is mentioned as host of the Aigle Noir. Neither in Coolidge's *Swiss Travel*, p. 209, nor in Wäber's 'Zur Geschichte des Fremdenverkehrs im engeren Berner Oberland' (*S.A.C.J.* xxxix.) is Wettach mentioned.



they reached at last the height of the Strahlegg. In vain they tried to descend to the Strahleggfirn. The snow was in a dangerous condition, so they had to retreat, and reached the Zäsenberg in the dark, wet through. The next morning, August 10, Hugi descended to Grindelwald, and ascended the Männlichen and the Tschuggen on the 11th. On August 12 he crossed the Great Scheidegg to Rosenlaui, finding good quarters at Oesch's inn there.<sup>19</sup>

On August 13 Hugi, with Lauener and the chamois-hunter, Melchior Keller, crossed the Urbachsattel. They had intended to cross by the then unexplored Rosenegg to the Gauli or Unteraar, but were driven back at the foot of the Dossenhorn by falling stones. So they redescended the Rosenlaui Glacier, turned into a side valley, and gained the Weit-, or Urbachsattel, by 2 P.M., reaching Hof the same evening.

'Föhn' and rain hindered excursions in the neighbourhood of Innertkirchen, so Hugi ascended to the Grimsel. The day after his arrival at Leuthold's hospitable house, he ascended the Siedelhorn with Lauener. The same day the other guides arrived from Innertkirchen and Guttannen, and with them, eight men in all, Hugi on August 18 started for the Finsteraarhorn.

Of his seven 'Steiger' Hugi mentions six by name—viz. Hans Lauener, Arnold Abbühl, Jakob Leuthold, Andreas Leuthold, Johann Moor, and Arnold Dändler. Of the Lauener and Abbühl I have already spoken. I am indebted to Pastor Lindenmeyer of Guttannen for particulars of the Leutholds.

The family hails from Unterstock, in the commune of Innertkirchen, but a branch settled at Im Boden about 1770, about which time the grandfather of our Jakob, viz. Johann, married Margaretha Bossli of that village. This Johann was for some time intendant of the Grimsel hospice, as was his son Jakob (baptised October 24, 1776; buried December 3, 1844). Jakob married on October 16, 1801, Regina, daughter of Kaspar Egger and Margaretha Abbühl (baptised September 25, 1778; died February 26, 1855; probably an elder sister of Arnold Abbühl of Finsteraarhorn fame). They

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<sup>19</sup> Probably the Capricorn. It is interesting to hear that Hugi was satisfied with Seiler's at Münster, Bertha's at Obergestelen, Müller's at Hospenthal, and especially with the hospitality of Leuthold at the Grimsel. But he complains bitterly of the roughness, incivility, and extortion at the Sauvage at Meiringen, so next time went to the more friendly Bär.

had five daughters, the eldest of whom, Margaretha, married in December 1827 Peter Zybach, the well-known intendant of the Grimsel hospice; and two sons, Jakob, called 'der Herrenführer' (baptised September 13, 1807), subsequently celebrated for his ascent of the Finsteraarhorn;<sup>20</sup> and Kaspar (born 1820), drowned in infancy. Jakob Leuthold married twice—first, in 1823, Barbara Rueff of Meiringen, divorced in 1829; and secondly, in 1831, Anna Inäbnit of Grindelwald (born 1808; died 1877), who survived him many years. They had five sons, none of whom seem to have become guides, and three daughters. By marriage, Leuthold's family became related to the Laueners of Lauterbrunnen (1858) and the von Bergen of Willigen (1877). Leuthold died on August 16, 1843, at his home, 'An der Lehn,' im Boden, near Guttannen, 'from typhoid fever with hemorrhage,' as the register gives it.

*Andreas Leuthold* was born at Innertkirchen on April 15, 1792, and was killed while chamois-hunting on February 25, 1846. He married on March 14, 1822, Katharina Abplanalp, and left two daughters. He was brother of Jakob Leuthold, senior (1776–1844), and, like his nephew, a guide of some repute.

*Johann Moor* belonged to Obermaad, near Gadmen. *Arnold Dändler* (*recte* Tännler) lived at Schwendi im Boden, near Guttannen, so he was a neighbour of Jakob Leuthold, of Finsteraarhorn fame.

On August 19 Hugi's party went by the Kessithurm and the Bärenegg, reached the Obearajoch at 3 p.m., and crossing the Studerfirn gained the Rothhornsattel at 6 p.m., just as a snowstorm came on, where they found traces of the Meyers' bivouacs of 1812. It gave Hugi, seconded by Jakob Leuthold, some trouble to persuade the men to remain and construct a stone-hut.<sup>21</sup> Next morning the weather mended, and Hugi decided to reconnoitre the S.W. side of the peak. They descended to the Fiescherfirn and mounted it<sup>22</sup> in the direction

<sup>20</sup> *A.J.* xxvii. 263 seq., with portrait of Leuthold.

<sup>21</sup> See the frontispiece of Hugi's *Alpenreise*.

<sup>22</sup> It was here that Hugi questioned Abbühl about his line of descent on August 16, 1812, and about the position of the Finsteraarhorn. Now, seen from this position the top of the Finsteraarhorn, although somewhat masked by the 'minor summit,' is quite distinct (see photograph in *S.A.C.J.* xlii. p. 359). So when Abbühl, standing near P. 3270, pointed to the Finsteraarhorn as lying behind and above a hanging glacier that descended from the main S.E. arête, he was quite right. But Hugi, prejudiced by the absurd statement of Zschokke that the guides

of a snow ridge that seemed to connect the Finsteraarhorn with the 'Walcherhörner,' as Hugi calls the whole range,

of 1812 started from the Oberaarhorn to climb the Finsteraarhorn. ridiculed his guide's perhaps hesitating indications, and proceeded in a direction to which Abbühl could not possibly object, since the 1812 party had, when it was too late, realised that it presented a much easier way to the summit.

I do not accept two other of Capt. Farrar's criticisms of Abbühl. One is his alleged confession that he never reached the actual top. Hugi gives it in two forms. In 1830, he says (*Alpenreise*, p. 172): 'When we reached at last the said height (which I interpret to be the Hugiattel), he withdrew his pretension—(*er wollte das Finsteraarhorn nicht mehr erstiegen haben*).' In 1831 Hugi is more precise (see *S.A.C.J.* xxvii. 385, and *A.J.* xxvii. 267): 'He declared repeatedly that he had made a mistake sixteen years ago in respect to the highest point, and that he had not ascended the Finsteraarhorn.' Now, one cannot help thinking that Hugi laid stress on this, to say the least, questionable retraction, because Dr. R. Meyer, in his reply, proposed to bring evidence to the contrary. I have in a previous article given one reason why that evidence was not published till 1852. The other may be this: When Dr. Meyer, on January 6, 1831, published a note in the *Aufrichtige und wohlverfahrene Schweizerbote* to the effect that he was preparing a new issue of Zschokke's account of 1813, based on the MSS. and corroborated by testimony for the real ascent, he was surely not aware that, out of his three witnesses, two, Volker and Abbühl, were dead. When he discovered this, and at the same time realised by Hugi's answer in the number of January 13, that his own credibility was not contested, he may have dropped the matter from indifference to the reputation of a dead guide, but surely not 'in sheer despair of ever arriving at the truth,' as Capt. Farrar thinks. Doubtless Dr. Meyer remained firm in his belief of his guides' ascent to his death.

The other point on which Capt. Farrar lays stress is that Abbühl in 1828 equally failed to convince the other guides, some of them his fellow-servants of the Grimselwirth while the Leutholds and he lived in the same village. Now, in 1828 the real question was not whether the ascent by the S.E. arête was feasible but whether the N.W. arête offered a better route. The decision was not left to the guides. As Jakob Leuthold put it, Hugi had to issue the order, and they would obey as best they could. Moreover, Abbühl outranked by age, position, and fame the others, and his relationship to the Leutholds surely prevented their expressing doubts of him even if they had any. The whole party was also demoralised by the previous bad night and the evident indecision of Hugi's plans. Moreover, the bad terms on which Abbühl was with Hugi since the start prejudiced the expedition.

including the Agassizhorn and the Grindelwald Fiescherhörner. It seemed impossible to gain the summit by the rocky cliffs on their right, so a circuitous way was chosen which brought them to the frontier ridge between the Fiescher- and the Finsteraarhorn glaciers. They gained it probably at the spot named, since 1862, Hugisattel.

Hugi, with the four best men, attempted to follow the N.W. arête, but a furious wind, severe cold, and the breaking of a cornice by which Hugi and Tännler nearly lost their lives, brought the party to a standstill, 'when they were only 200 ft. distant from the top.'<sup>23</sup> They returned the same way to the Rothornsattel, hurried in bad weather over the Oberaarjoch to the Oberaarhut, reached at nightfall. Towards noon of August 21 they regained the Grimsel, where bad weather kept them for some days.

On August 25 he crossed with Lauener the Grimsel to the Valais. On August 27 he ascended with Lauener and some porters from Laax by the 'Mörileralp' to the ridge dividing it from the Aletsch glacier, crossed the Elsölücke to the glacier and the Aletsch lake, intending 'to penetrate into the glacier region between the Jungfrau and the Finsteraarhorn.' But the incapacity of his porters and bad weather obliged him, after some excursions, to redescend to Laax. Thence he made two excursions—one by Grengiols and the 'Mehlfluh' towards the Bortelhorn, the other by Aernen to Binn, and from there by Heilig Kreuz and the Langthal 'to the highest crest of the Pennine Alps.' On this occasion he was accompanied by three men, all ignorant of the region, Hans Lauener from Lauterbrunnen, and two porters from Laax. He seems to have gone straight up from Heilig Kreuz by the Kriegalp valley to the Kriegalppass, followed thence the frontier ridge in a N. direction, keeping on the Swiss side under the Güschihorn and the Cherbadung and crossing the Güschi glacier, the Wannenglacier, and the ice-field (unnamed in S. map) between the Fleschenhorn and the Schwarzhorn. Hence he found his way down to the Furggelti and by it to the Hockboden or the Maniboden, and so to Giessen, where he passed the night. The next three days he passed in the Binntal, engaging the 'crystal hunter,' Franz Weltscher, who gave every satisfac-

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<sup>23</sup> Hugi no doubt underrated the distance. The difference is 186 mètres, and the incident must have taken place not far above the Hugisattel, as only in the lower part of the arête do cornices occur.

tion. With him Hugi mounted again twice more 'by the rocky mountains directly to the crest of the Alps.' He regained the Rhone valley, and went up it to Münster, visiting on August 31 the Münster glacier. On September 1 he went up the Egginenthal to the foot of the Griespass and over the Nufenenpass to Airolo; and on September 2, over the Gotthard to Hospenthal. He and Lauener then made geological excursions to the St. Anna glacier, the Unteralp, the Wyttengewasser glacier, the Lucendro lake, and, on September 4, the Bätzberg. They crossed, on September 6, the Sustenpass from Wassen to Gadmen. Probably still with Lauener, he visited the Wendenthal, 'between the Titlis and the Urazhörner,' ascended with great risk the rocks of the Titlis towards the Titlisjoch, and visited the Wenden glacier. He next went down to Hasli im Grund, whence his former fellow travellers, the men of the 'Spittler,' on September 8, conducted him in triumph on horseback to the Grimsel. With the Count v. Paar from Vienna, he made on September 9 and 10, excursions to the Rhone- and the Unteraar glaciers. They then went down to Meiringen, lodging at the Bär. Hugi returned to Soleure.

As 1828 was evidently a record year for the guides and porters in the Oberland, I have drawn up a sort of schedule of their doings. Then, as now, one may distinguish the Lauterbrunnen men, the Grindelwalders, and the Hasli men. The wages were the same for guides and porters—*i.e.* 4 (old) francs if the guide fed himself, 2 (old) francs if the traveller provided for him.<sup>24</sup> Evidently the latter method was adopted by Hugi and Rohrdorf, and probably by Brown and Slade. Two old francs are equivalent to 2 francs 90 centimes, present Swiss money, but the purchasing power of money in 1828, compared with 1913 (to say nothing of war-time), was double or more. Our list will also show what the rapid development of guidecraft meant for the respective centres on one hand, and for the advancement of mountaineering on the other.

#### A. LAUTERBRUNNEN MEN.

*Peter Bischoff*.—August 2–4, with Hugi: Roththal; August 5–7, with Rohrdorf: Kalli; August 20–22, with Brown

<sup>24</sup> Wyss: *Reise in das Berner Oberland*, vol. i. p. 101. From Fenimore Cooper (*Excursions in Switzerland*, vol. ii. p. 729) we learn that 'Six French francs (= 4 old Swiss francs) was the established price for a guide in Switzerland, he paying his own expenses.'

and Slade : attempt on Jungfrau ; 9 days' service ; wages about 27 francs and keep.

*Hans Lauener*, the chamois-hunter.—August 2 to September 20, with Hugi : Roththal, Strahlegg (not traversed), Urbachsattel, Siedelhorn, Oberaarjoch (twice), Rothhornsattel (twice), Hugisattel, Elsilücke, Kriegalppass (from N. only), Münster glacier, Nufenenpass, St. Anna glacier, Unteralp, Wyttlenwasser glacier, Bätzberg, Sustenpass ; 52 days' service ; wages about 168 francs and keep.

*Johann Lauener*, the guide.—August 2-4, with Hugi : Roththal ; August 20-22, with Brown and Slade : attempt on Jungfrau ; 7 days' service ; wages about 18 francs, etc.

*Christian Lauener*.—August 2-4, with Hugi : Roththal ; August 20-22, with Brown and Slade : attempt on Jungfrau ; 6 days' service ; wages about 9 francs, etc.

*Gertsch, jun.*—August 20-22, with Brown and Slade : attempt on Jungfrau ; 8 days' service ; wages about 9 francs, etc.

#### B. GRINDELWALDERS.

*Christian Roth*.—August 5-9, with Rohrdorf : Kalli and journey to Berne and back ; August 19-29 : Mönchjoch (twice), Sattelknopf ; September 8-11, with six others : Mönchjoch (twice), Jungfrau (to Roththalsattel only) ; 20 days' service ; wages about 48 francs plus 21 francs from the Government.

*Ulrich Wittwer*.—August 21-29, with Rohrdorf : Mönchjoch (twice), Roththalsattel ; September 8-11, with six others : Mönchjoch (twice), Jungfrau ; 13 days' service ; wages about 27 francs plus 21 francs, etc.

*Peter Moser*.—August 21-29, with Rohrdorf : Mönchjoch (twice), Roththalsattel ; September 8-11, with six others : Mönchjoch (twice), Jungfrau ; 13 days' service ; wages about 27 francs plus 21 francs, etc.

*Peter Baumann*.—August 9-12, with Hugi : Strahlegg (not traversed) ; August 21-29, with Rohrdorf : Mönchjoch (twice), Sattelknopf, Roththalsattel ; September 8-11, with six others : Mönchjoch (twice), Jungfrau ; 17 days' service ; wages about 39 francs plus 21 francs, etc.

*Hildebrand Burgener*.—August 9-12, with Hugi : Strahlegg (not traversed) ; August 21-29, with Rohrdorf : Mönchjoch (twice), Jungfrau ; 17 days' service ; wages about 39 francs plus 21 francs, etc.

*Peter Roth*.—August 9–12, with Hugi: Strahlegg (not traversed); August 21–29, with Rohrdorf: Mönchjoch (twice), Roththalsattel; September 8–11, with six others: Mönchjoch (twice), Jungfrau; 17 days' service; wages about 39 francs plus 21 francs, etc.

*Christian Baumann*.—August 21–29, with Rohrdorf: Mönchjoch (twice); September 8–11, with six others: Mönchjoch (twice), Jungfrau; 13 days' service; wages about 27 francs plus 21 francs, etc.

*Hans Baumann and Peter Burgener*.—Herds at the Zäsenberg pastures. August 26–29, with Rohrdorf: Mönchjoch (twice); 4 days' service; wages about 12 francs, etc.

*Christian Schlunegger, Jakob Grüneisen, Hans Bohren, Peter Burgener, Christian Bernhard*.—August 21–26, with Rohrdorf: Stieregg hut, Kalli, Eigerhöhle, etc.; 6 days' service; wages about 18 francs, etc.

### C. HASLI MEN.

*Melchior Keller*, chamois-hunter. —August 16, with Hugi: from Rosenlauri by the Urbachsattel to Im Hof; 2 days' service; wages about 9 francs.

*Arnold Abbühl, Jakob Leuthold, Andreas Leuthold, Johann Moor, Arnold Dändler (Tännler)*.—August 18–21, with Hugi: Oberaarjoch (twice), Rothhornsattel (twice), Hugi-sattel; 5 days' service; wages about 18 francs each.

I return now to Hugi's wanderings in 1829.

On July 16 he left Soleure, with Peter Gschwind and Joseph Zemt. At Lauterbrunnen his friend Jakob Roth and the guides Peter Baumann, Peter Bischoff, Hans Lauener (the chamois-hunter), Christian Lauener (his brother), and Johann Lauener (the guide) joined the party. They started early on the 18th, and at 1 p.m. reached the entrance of the Roththal.<sup>25</sup> As the weather was fine, they proceeded up the valley and built a stone hut.<sup>26</sup> Hugi, with Peter Baumann and another guide, meantime went on to reconnoitre. His topographical description is, as usual, more copious than clear, but by what I understand him to say about the contact lines of granite, gneiss, and limestone, and from what he states he saw, I incline to think they ascended to the so-called Inner

<sup>25</sup> See Plate, *A.J.* xxx. opp. p. 284.

<sup>26</sup> The spot may be in the neighbourhood of the old S.A.C. hut. The building is reproduced in *A.J.* xxx. opp. p. 285.

or S.W. arête of the great splayed buttress that makes so great a show from the Ober Steinberg,<sup>27</sup> followed it for some time towards the Hochfirn, then traversed horizontally to the outer or W. arête forming the S. bank of the Silberlautobel, descended this for some time, and regained the entrance of the Roththal at nightfall. If the other guide was Peter Bischoff or Christian Lauener, the party covered ground familiar to him from a former expedition.

After a comfortable night in the well-covered and tightly-closed hut, Hugi, with the guides, went to the upper valley, whence in 1828 he had intended to cross to the Valais. But the guides were reluctant, Baumann asserting that in this direction they could neither reach the Jungfrau nor descend to the Aletsch Glacier. With some trouble the party gained by a hanging 'firn' the first rocks, but the work of cutting steps in the hard snow of the couloir was so tedious, and the Lauterbrunnen men showed so little zeal, that Hugi was forced to abandon the enterprise and descend to the Stufensteinalp. They had overtopped their cabane by only 100 m. One cannot help thinking that the rivalry between the Lauterbrunnen and Grindelwald men contributed much to the failure of the expedition.

On July 20 Hugi descended to Trachsellaenen and remounted thence on the right bank of the Lütschine by the Hohenalp (which he mentions), the Breitlaunenalp, and the Tanzhubel, to the Oberhornalp, and thence went down to the Ober Steinberg. It seemed to him that a passage to the Valais would be possible by the Breithorn Glacier [the Schmadrijoch], while the ascent over the much-crevassed glacier between the Breithorn and the Tschingelhorn [the Wetterlücke], or the attack on the latter by its rock face, was apparently hopeless. Bad weather on the following day, July 21, prevented all real attempt. So the party descended to Lauterbrunnen. As the weather mended on July 22, Hugi remounted to the Ober Steinberg. To gain these huts he took a roundabout route, ascending first the Sefinen glen to the 'Kirchbalm,' which he visited. Thence, with Peter Baumann alone, as the Lauterbrunnen men preferred to go round by Stechelberg and Trachsellaenen, Hugi ascended to the 'Steinengrat,' whose height he reached probably at P. 2826. From here he saw the Ober Steinberg, 'below in the nebulous depth.' But they failed to reach it directly by

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<sup>27</sup> See Plate, *A.J.* xxxi. opp. p. 217.



descending in a southerly direction. So they went eastward over loose stones and débris (here Hugi sprained his ankle), round the Ellstab, and descended by a gap he calls Busetjoch<sup>28</sup> to the Ober Steinberg.

On the early morning of July 23 Hugi, with eight guides and porters, started for the Lötschenthal. They went by the Tschingeltritt—Hugi finds this passage not difficult 'for naturalists and capable guides,' but thinks a ladder and a few artificial steps would be useful for tourists—and 'rounding the Mutthorn by its left side,' reached the Petersgrat<sup>29</sup> at noon, although he spent much time on geological and meteorological observations and measured many angles for the sake of his map. Note also that he was nearly lame from his sprained ankle, remaining an invalid for six weeks, and his personal failure on the Finsteraarhorn may be mainly ascribed to that.

From the Petersgrat the party did not descend directly S. by the Telli glacier, but in order to find out whether a descent from the 'Breithornsattel' [the Wetterlücke] was possible if one succeeded in reaching it from the N., they rounded the Tschingelhorn till just below that col, and then descended, by the Ausser Thal probably, to the main valley and down to Kippel, where they arrived early in the afternoon. They had some trouble to find quarters in the curate's house for so many and so strange-looking men. The next day, July 24, Hugi remounted the Lötschen valley, conversing much *en route* with the natives—his description of their life and manner is the first given by any tourist—so that he reached the foot of the Langen glacier only at 3 p.m. They ascended it for about an hour, along the left bank apparently. Arrived on the last grass at the foot of a snow lane descending from the 'Nesthorn' [the Lötschenthaler Breithorn], they built a stone hut,<sup>30</sup> where they passed a very cold night, without fuel, the thermometer sinking to  $-8^{\circ}$  Réaumur.

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<sup>28</sup> The name is evidently taken from the Bussenalp just N. of the col. It may be the 'Schneeige Lücke' of the local tradition. For this gap and Hugi's denomination in that region, see *Climbers' Guide to the Bernese Oberland*, vol. i. pt. ii. pp. 49-54.

<sup>29</sup> I think the *Climbers' Guide* (*l.c.*, vol. i. pt. i. p. 50) is right in assuming that the name of this col derives from Peter Baumann, Hugi's leading guide on that expedition. At all events it was given by Hugi. (*Alpenreise*, p. 270.)

<sup>30</sup> The spot is marked with a  $\square$  on Hugi's map, and a view of the hut is given in *A.J.* xxx. opposite p. 285 (No. 3).

Hugi had some trouble to induce the Lauterbrunnen men, on the chilly morning of July 25, to follow him into the unknown regions of the Aletsch Glacier, and more than once the comforting wine flask eased their weary tramp of five hours up to the Lötschenlücke. Leaving at 9.30 A.M., they reached the old bivouac place on the Grüneck about 1.30 P.M. All, and especially the leader, Peter Baumann, were drenched to the skin by wading through and occasionally falling in the abominable morass that blind admirers of scenery call the 'Place de la Concorde.' Hugi intended to remain here for at least eight days, but the weather got rapidly worse and the guides were unwilling to do the usual masonry work. So the party descended in four hours to the huts of the Märjelenalp. As these were already occupied by 'a hundred of half-naked Italian people,' engaged in digging a tunnel to drain the Märjelen lake into the Fiescher valley, they resolved to descend to Fiesch. So finishing their wine, and leaving the uneatable black bread bought at Kippel and other food to the herds of the Märjelenalp, they stumbled down, partly in pitch dark, over rock-cliffs and débris to Fiesch, where they arrived at 11 P.M., thoroughly exhausted after a twenty hours' journey. Even the 'giants' Baumann and Zemt had enough of it.

Sunday, July 26, was necessarily a day of rest, and as the weather remained uncertain, Hugi dismissed the six Oberlanders, who went back by the Grimsel to Grindelwald and Lauterbrunnen. He took advantage of his stay at Fiesch to search, without result of course, for traces of the old route from Fiesch to Grindelwald by the Walchergrat. More fruitful was his excursion in Val Formazza with Peter Gschwind and Joseph Zemt, which enabled him to draft a geological profile of the mountains from Formazza to Obergestelen, but he did no climbs worth recording.

On July 30 he went from Ulrichen by the Oberthal and the Ulricherjoch, and along the N. side of the Siedelhorn range to the Grimsel. Thence, on July 31, he started with eleven men, all well laden with signal poles, materials for the hut to be built on the Unteraar Glacier, and victuals for several days.

At noon they reached the selected place, on the moraine near the Abschwung, and while the engineer Walker and Peter Gschwind began to trace out a stationary line for their glacier measurement, indicated on Hugi's little map, the rest erected between two granitic boulders a regular stone hut

that served as headquarters for the scientific staff of the party during the rest of the summer.<sup>31</sup> I cannot enter here on that part of Hugi's work. He confesses himself that the inconstant weather did not allow him to push the triangulation as far as he wished. After three days' stay at the hut Hugi returned to the Grimsel, leaving Walker and Gschwind to continue their work on the glacier.

On August 4 he left the Grimsel once more, with J. Leuthold, Joseph Zemt, Joh. Währen, J. Moor, Kaspar Nägeli, B. Horger, and Klaus Fahner.

Of Leuthold and Moor we have already spoken. Nägeli was, to judge from his name, a Guttannen man; so was Fahner. I would remind the reader once more<sup>32</sup> that it was not a Nägeli, but a Fahner, who, on August 14, 1799, led a detachment of French troops by a steep and difficult tract from Guttannen over the Nägelisgrätli (known under that name since 1760) into the rear of the Austrians, who held the position of the Grimselpass. It is curious that Hugi (p. 224) was unaware of this fact, although a Fahner and a Nägeli were in his service. I know nothing about Horger. Zemt was from Soleure—a strong, active, and trustworthy man. Währen belonged to St. Stephan, in the Upper Simmen valley. He was a son of Andreas Währen and Margaretha Schläppi, a stonemason by trade, residing at Innertkirchen.<sup>33</sup>

They crossed the Oberaarjoch, the Rothornsattel, and descended to the Fiescherfirn, traversing thence along the S.W. face of the Finsteraarhorn. The only site for the usual hut<sup>34</sup> was an islet of débris in the snow, probably where now the Finsteraarhorn hut stands. Two of the porters, Horger and Fahner, proved utterly useless, and are immortalised by Hugi as prototypes of a since well-known specimen, who eat a lot, work little, drag the blankets off their sleeping comrades, and drink the wine during the night.

By six the hut was finished, and, as a snowstorm raged, they soon crept in and tried to sleep. Next morning, August 5, the cold was intense, and fresh snow rendered climbing impossible. On the Rothornsattel they were caught in a dense mist, and Hugi managed, solely by aid of

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<sup>31</sup> The hut is marked on both Hugi's maps and figured in *A.J.* xxx. opposite p. 285, as number 1.

<sup>32</sup> See *Climbers' Guide to the Bernese Oberland*, vol. ii. pt. i. p. 3.

<sup>33</sup> *A.J.* xxvii. 297.

<sup>34</sup> See *A.J.* xxx. opposite p. 285, under number 4.

the compass, to find the Oberaarjoch, whence the party reached the Grimsel. The same evening the indefatigable Zemt started for the Unteraar Glacier to help Walker and Gschwind in the transport of the instruments.

After a rest of two days Walker and Gschwind returned to their work on the Unteraar Glacier. Hugi himself, on August 9, left the Grimsel at 9 A.M., with Jakob Leuthold, who persisted in joining the party, although ill, Moor, Währen, Zemt, and Nägeli. At 8 P.M. they were in their old gîte on the Rothornsattel. They had a splendid evening with full moonlight. The old supply of fuel enabled them, for the first time in all Hugi's expeditions, to dry their shoes, stockings, and gaiters. After the meal Zemt and Leuthold washed and bandaged Hugi's swollen foot. Then they lay down on the stony floor, covered themselves with a great oil-cloth, and slept undisturbed.

Early on August 10 they started for the ascent of the Finsteraarhorn, taking with them only the necessary food, some instruments, and a pole 7 ft. long and as thick as a man's arm. With some trouble, as there was less snow and more ice than the previous year,<sup>35</sup> they reached the Hugi-sattel. Thence Hugi ascended in a north-westerly direction, till he could look down 'into a narrow snow valley bordered on the East by the Walchergrat, on the West by a lower range of cliffs [the Grönhörner], that descended from the Fiescherhörner and ended as a small glen in the Fiescherfirn.' He thought that, if the legendary passage from the Valais to Grindelwald led, instead of over the Aletsch Glacier, over the Fiescher Glacier, which was more probable, it must have been by that particular valley. After some observations of that kind he returned to the Hugi-sattel, and the party now started to climb the Finsteraarhorn. With some difficulty they gained by steep snow patches 'a first and second step' of the arête. But to reach the foot of the final buttress, consisting of sheer rocks, Leuthold and Währen had to cut steps 'across an icy couloir that fell rapidly down' towards the W. probably. Much time was spent on that work, and meanwhile Hugi's swollen foot became quite benumbed. So when Leuthold returned to lead him over, the passage appeared too risky, as Hugi had not strength enough to plant his lame foot firmly on the ice. Moreover, Leuthold declared openly

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<sup>35</sup> That is, to my mind, the real meaning of Hugi's (p. 209) perplexing phrase, 'Bei so tiefem Stande des Firns.'

that, if Hugi slipped, he could not move to save him. An attempt to creep over in stockings failed; nor could the guides help their employer with the rope. Neither of the others cared to pass that *mauvais pas*. So Hugi had to remain where he was,<sup>36</sup> perched on the edge of the arête, while Leuthold, with the cumbersome pole on his back, joined Währen on the other side of the couloir. The manner in which he did it would have caused Tyndall the same delight as Bennen's artifice on the arête of the Weisshorn in 1861. Hugi describes it as follows: 'He thrust his foot firmly into the first step, and let his shoe be slightly frozen to the surface to which he clung, then he drove with both hands his steel-pointed stick into the wall, held on it, and took a stride to the second step. When he was fast there, he drew out his stick,' and so on. Then both clambered speedily up the rocks and gained the top. There they built a pyramid of rough stones 7 ft. high, and planted on it a flag that was instantly seen from the Grimsel, and, later, from Berne and even Soleure. They found no trace of a previous ascent it seems; but as the signal of 1812 was a simple pole, this might have vanished long ago. Leuthold and Währen left some things that had served for the flag—it consisted of iron rods screwed together and covered with a black waxcloth, which were found in 1842 by Sulger's guides. They went over the sharp crest of the summit that was free from snow and ice, towards the south, till they saw the region of their hut on the Rothornsattel. Then they returned to Hugi and the others, somewhat agitated by their hazardous climb. Währen had even fainted twice while working at the signal. Before leaving the 'sattel'

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<sup>36</sup> He calculated that he was 13,033 French ft. (about 4120 mètres) above the sea, and only 200 ft. below the top. Both figures are erroneous. The difference of height between the Hugi-sattel and the top is 186 m., and the spot where Hugi rested in 1829 is certainly not much higher than that where he turned back in 1828. His 'times' also are confused. Once he says (p. 209) that he was on that spot at noon already; then (p. 208) that he waited nearly two hours while Leuthold and Währen cut steps across the couloir; further (p. 207), that the two were busy building a pyramid on the top for three hours. On Tables VI and VII he notes an observation made 'on the first step' (12,606.2 ft. above the sea) at noon, and another 'on the second step' (13,033.2 ft.) at 1 P.M. Now, as the two guides were back at Hugi's resting-place shortly after 4 P.M., we may reasonably allow them four hours for the ascent from the Hugi-sattel and the return to it.

Hugi deposited in the rocks a thermometrograph enclosed in a bottle.

Then, having emptied their wine flasks, they began the descent. It was slow and difficult because of Hugi's condition, the softness of the snow and big crevasses. The party was roped, and when the leader Leuthold testing with his stick suspected the snow bridges, he crossed them on his stomach and pulled the others over with the rope. They reached their gîte by nightfall, but as bad weather was threatening they decided to go on to the Grimsel at once. Near the Oberaarjoch Hugi's foot was so badly swollen that he proposed that he and Zemt should seek shelter in the rocks of the Oberaarhorn, while the others descended to the Oberaaralp for help. Leuthold promptly took Hugi on his back, relieved from time to time by Währen and Zemt. They reached the Oberaaralp before midnight.

The next morning, August 11, Hugi, packed in a back-basket, was carried by Leuthold and Währen alternately down to the Grimsel. Eight days later, taking leave of his good comrades, he descended on horseback to Guttannen and Im Hof.

Alone with Zemt he made an excursion in the Urbach valley (August 18), and crossed the Brünig (on August 19) to Lungern and Stans; then to Wäggis and, on horseback once more, over the Rigi (August 21) to Goldau. Thence they went to Küssnacht and Lucerne.

Here Hugi engaged three porters, the brothers Franz, Johann, and Marx Huber from Kriens, to help Zemt with the heavy luggage. With four men and, as he thought, provisions for three days, he went on the evening of August 22 to Eigenthal, at the N. foot of the Pilatus. The next day they mounted by pastures and rough ground to the 'Kriesiloch,' at the foot of which they halted for lunch at 2 P.M. It is amusing to read of Hugi's experiences with worthless porters repeated once more. In two meals, one near the Kriesiloch, the other at the border of the marshy 'Lake of Pilatus,' the victuals were nearly consumed; in vain the Hubers tried to haul the big basket up the narrow Kriesiloch, till Zemt, who had gone ahead with Hugi, redescended, charged the whole load of eighty pounds on his broad shoulders, invited one man to ride on the load as extra weight, and remounted the Kriesiloch to the Tomlishorn, smoking his pipe! The party ascended the 'Esel,' the highest summit of the Pilatus. On the return to the Eigenthal the porters, in storm, mist, and rain, lost the

way on their own mountain and arrived at Eigenthal towards midnight (August 23), while Hugi and Zemt, descending as best they could, came in two hours sooner.

From Lucerne Hugi went by the Entlibuch, Schangnau, and the Schallenberg to Thun. There he waited four days, intending to return by the Simmenthal to the mountains, but as the weather remained bad he returned to Soleure.

It is mostly the fault of Hugi himself if we know so little about his alpine doings in 1830. He published no detailed account, and his isolated statements in later publications are vague and often disfigured by slips of the pen or faults of memory. For July and August Hugi planned a new expedition to the High Alps. He had provided himself with more scientific instruments than ever, and engaged the botanist Roth, the painter Disteli, and the engineer Walker as his staff. What became of the plan to survey a new portion of the glaciers of the Bernese Oberland and to make geological profiles like those in the *Alpenreise*, we do not know. The only climb we hear of was an ascent to the Mönchjoch. He describes it as follows: <sup>37</sup> 'In 1829 [*recte* 1828] some Grindelwalders went easily over the Walchergrat, but in 1830 the hanging névés and glaciers descending from that arête were so broken up in wild séracs that none of these men recognised the spot where they had been. So possibly no expedition was so troublesome and hazardous as that we were obstinate enough to carry through.' In the same year Hugi may have visited his hut on the Unteraar Glacier, but we have no certainty about the fact. On p. 106 of his 'Wesen der Gletscher' Hugi notes that he marked in 1830 an immense block on the moraine, near the Abschwung, and that he found the same in 1836, with the date still painted in oil on it, but several thousand feet lower down as a glacier table in the middle of the glacier. But on p. 79, where he seems to allude to the same block, he tells us that he reached it by way of the Gauri Glacier and the Ewigschneehorn in 1830. It is, however, certain that this visit was made in 1831, as we will see.

For 1831 an expedition in the glacier region near the Aletschhorn was planned, but at the last moment, for an unknown reason, the plans were altered. So, on Saturday, August 13,

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<sup>37</sup> *Winterreise*, p. 47. At p. 54 he tells that he, in 1831, stood on the 'snow arête behind the Eiger'; but we shall see that the campaign of 1831 pervaded the regions of the Grimsel, the Furka, and the Gotthard, and ended at Lucerne.

Gottlieb Studer, who had been invited in the spring to join Hugi, left Berne with Hugi, Zemt, and a new porter, Stadlin from Zug, and slept at Unterseen. On Sunday, August 14, they went by Interlaken, Brienz, and Meiringen to Im Hof, near Innertkirchen. There they engaged as guides Andreas Leuthold, uncle of Jakob, and Johannes Währen. Jakob Leuthold, who met them by chance coming from Meiringen, was bound for the Grimsel, but promised that he would meet them next day on the summit of the 'Aargrat,' i.e. the Gauli-pass. When Hugi and Studer, with A. Leuthold, Währen, and Zemt, left the inn at Im Hof on the early morning of August 16, the weather was damp, and some showers fell during their march up the Urbach valley to the Urnenalp. Rain also accompanied them the next morning, August 17, over the Gauli Glacier and the Grünbergli to the col. They left the 'Happislümmelti' <sup>38</sup> (3127 m.), the lower of the two gaps that form the Gaulipass, to their left and steered for the higher one (3206 m.), next the foot of the Ewigschneehorn. They crossed the bergschrund, Leuthold leading, Währen bringing up the rear, the others holding to the rope with their right hands. On the col they listened in vain for the signal shots of Jakob Leuthold, who had supposed they would not come in such bad weather. Hugi and Studer did *not* ascend the Ewigschneehorn, which—so Studer says in his diary—they could have reached from the col in about an hour. They descended to the Lauteraar Glacier, passed the old and new 'Jäger Herberge' ('A.J.' xxxiii. 95, note 38), and visited near the Abschwung the hut erected by Hugi in 1829. It was already in ruins. Only some laths and heaps of rhododendron bushes remained to indicate the spot that was 504 ft. farther from the Abschwung than in 1829. In good time they reached the Grimsel. On August 17 Hugi reposed, while Studer and Zemt ascended the Siedelhorn. Leuthold and Währen were dismissed; Stadlin, who had taken the high road by Guttannen and the Handeck, arrived with the barometer. So on August 18 the four went by the Mayenwang and the Furka to Realp, where they stayed at the house of Father Brunner. Studer left Hugi on August 31 at Lucerne. Together they descended to Hospenthal, went up to the Gotthard and back, and down the Reuss valley to Amsteg and Altdorf. But while the others

<sup>38</sup> As for that name, see *Climbers' Guide to the Bernese Oberland*, vol. ii. p. 136.



were engaged in geological studies which required no serious climbing, Studer was permitted to ascend, on August 22, with the innkeeper of the Gotthard, the Fibbia; on August 23, alone, the Winterberg or Piz Orsino, and on August 27, with Melchior Trösch, the Kleine Windgälle. So this campaign ended with greater advantage, from the mountaineering point of view, for the volunteer than for the leader. No doubt Studer was useful to his employer, collecting minerals and geological specimens in situations beyond the reach of Hugi.

In 1832 Hugi made something new in the record of mountaineering, viz. a winter expedition to the glaciers of Grindelwald. His idea was that the thick and durable covering of snow in the Alps might allow him to reach spots that had proved inaccessible in summer 'during the low state of the névés and glaciers.' The aim, to attain which he underwent great hardship and serious risk, not to speak of considerable expense, was in the first line scientific. It concerned questions of glaciology that had been raised by De Saussure, Charpentier, and others. I am not competent to judge those matters, so I shall confine myself to a mountaineering narrative.

At noon, on January 4, he arrived at Grindelwald with Zemt and the necessary instruments, after an adventurous journey in bitter cold. A few days were passed with experiments on the snouts of the Upper and Lower Grindelwald glaciers. Then, on January 8, after a 'tremendous' breakfast, a start was made, although the weather was threatening, with eight herdsmen and chamois-hunters and provisions for two or three weeks. He mentions Baumann, probably Peter, Burgener, and Roth 'der Felsenmann,' and describes the heartbreaking scenes of departure. All the guides had spikes of steel 2 inches long screwed in the heels of their shoes, and Hugi was only too glad to follow their example. Hugi<sup>39</sup> ridicules travellers and alpine writers who recommend foot-irons as absolutely indispensable. Hugi finds them, in summer, unnecessary on turf or grass, superfluous on glacier and 'firn,' as those are either granulous or soft, and decidedly dangerous on rocks. Good nailed shoes, not too heavy, are quite sufficient in his mind.

With enormous trouble and danger the vanguard of the caravan reached, at half-past three P.M., the place where Hugi

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<sup>39</sup> *Ueber das Wesen der Gletscher und Winterreise in das Eismeer*, pp. 28-29.

supposed the Stieregg hut to be. A prominent snow mound showed its position, but night appeared before they could manage to enter it from above. Here they remained thirteen days, continuing the experiments on the nature of the glaciers, their grain and structure, depth of the crevasses, etc., and making excursions. Three of these are worthy of record. On the fourth day of their stay at the hut, *i.e.* on January 12, Hugi with the three best guides set out for the Strahlegg, while two others were sent out towards the Walcherhörner to search for a cave or other shelter for the night. The others remained at the hut busy with household work and scientific observations. This time Hugi followed the right bank of the glacier beyond the Bänisegg along the foot of the Schreckhörner. They went fast in high spirits, because of the good wine they had with them, and reached the Strahlegg at noon. Once more Hugi persuaded himself that 'the best passage from Grindelwald to the Aar glaciers and the Grimsel goes over the snow lane on the Klein Lauteraarhorn,' *i.e.* the Strahleggpas (3351 m.) of recent guide-books and maps. Hugi did not try to descend to the Strahleggfirn, but 'hastened over towards the Walchergrat.' Behind the 'Grünenwang' they found their two comrades shivering and miserable. During the whole day they had in vain sought for the desired shelter. So the plan to explore the Walchergrat the next day in the direction of a col S. of the Klein Fiescherhorn, or between the two Fiescherhörner, was given up and retreat begun at once. It proved difficult and troublesome, as night had fallen and snow covered everything. Even Peter Baumann, 'the Gletscherhirt,' was unable to find the big boulder against which his hut was built. In the séracs caused by the junction of the Grindelwald-Fiescherfirn and the Lower Grindelwald glacier, they became so entangled that for a moment they thought of passing the night in a crevasse into which they descended with the help of the rope. But the cold was too intense. So they remounted to the surface and continued, roped, the wearisome and dangerous traverse till they reached towards midnight the Stieregg hut. Another day, on January 16 probably, Hugi made an attempt to reach the Mönchjoch, but the day proved too short, and wisely he contented himself with reaching the great plateau below the Bergli rocks. On January 18 Hugi travelled up and down the whole length of the Grindelwalder Eismeer. He seems to have ascended nearly to the Finsteraarjoch, but not to its top. On January 21, as the weather broke and 'föhn' set in, the party returned in

great haste to Grindelwald, which they reached safely, going by the Bäregg as on the way up. The descent was even more risky than the ascent had been. Two days later he ascended the Faulhorn in frosty weather, but was blocked in the hut there for three days, because soft snow on the heights rendered an immediate return too dangerous. On the frosty morning of January 26 he descended to Grindelwald, and soon afterwards went home.

Later in the same year Hugi attempted to climb the Jungfrau. We possess only indirect accounts of this assault that ended at some distance below the Roththalsattel. Desor<sup>40</sup> and Forbes<sup>41</sup> tell us that in 1841, when their party slept at the Märjelenalp before their ascent on August 28, a man was despatched to the village of Fiesch to fetch a ladder that had served Hugi and Jakob Leuthold in 1832 and was left by them on the Jungfraufirn. It was found and brought down later by a peasant of Fiesch who, having repaired it, claimed it as his own property. It would seem that Hugi's party had come to that spot from Grindelwald over the Mönchjoch, and that the attempt was defeated by bad weather somewhere near the Roththalsattel. It is odd that Hugi never speaks of this expedition.

As stated, we know little of Hugi's alpine career after 1832, save that he returned to his hut on the Unteraar glacier in 1836, and even later.

In conclusion, we will endeavour to say something about the literary merit of his two alpine books. Although Hugi was an enthusiastic climber and an educated writer, both are, judged from a modern standpoint, not so illuminative in form and style as the Meyers',<sup>42</sup> and even Rohrdorf's pamphlets. We learn less from Hugi than from the others of the technique and practice of our craft in those bygone times. While we get some idea of Hugi's scientific equipment, we are told little about his commissariat. We learn that broth, chocolate, and ham were in favour with the party, and that they did not despise a good supply of wine. Indeed, when Hugi started for the Finsteraarhorn the first time, he took for himself and his seven 'steiger' a barrel holding thirty litres and a

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<sup>40</sup> *Excursions et séjours dans les glaciers et les hautes régions des Alpes* (1844), pp. 277-8.

<sup>41</sup> *Travels through the Alps*, new edition, edited by W. A. B. Coolidge (1900), pp. 440, 442-3.

<sup>42</sup> See Capt. Farrar's remark, *A.J.* xxvii. 295.

couple of wine-bags filled with best Lacôte, reckoned to suffice for four days. Of course he also had spirits with him, and when, on January 8, 1832, Roth collapsed on the glacier below the Stieregg and refused to move, he was drenched with 'Kirschgeist' till he allowed himself to be led to the hut. It is a pity also that Hugi gives no details of the condition of himself and his men during their climbs. His general remark<sup>43</sup> that there was no difference of pulsation, respiration, bodily temperature, etc., in the observations noted at high or lower stations, save those caused by exertion, fatigue, and especially fright, is but poor compensation for the missing tables of such observations. As students of alpine history, we miss accurate details of Hugi's climbs and routes and, above all, better maps. The great map entitled 'Uebersicht der Gletscher zwischen Grindelwald, Wallis, Hasle und Lötsch' is chiefly based on that of Wyss of 1816, and repeats all its errors. The new items in Hugi's map are a few names, the site of his huts, and a contour line marking the boundaries of névé and glacier. The map of the 'Unteraargletscher mit seinen Verzweigungen'<sup>44</sup> is an extract from the greater and more detailed plan designed by Walker. It is based on a scheme of triangulation that was never finished nor issued, and was speedily deposed by Joh. Wild's survey of the Unteraar glacier while he was in Dollfus' service.

On the other side it is only fair to state that the geological chapters of Hugi's books are full of interesting and useful observations and notices, and show a veritable advance in our knowledge. Although his studies on the phenomena of glaciers are honest and trustworthy work, and his general theories met with sharp criticism from Charpentier, Agassiz, and Desor, and are not tenable in the light of modern knowledge, I think Professor Forbes does Hugi only justice when he says:<sup>45</sup> 'He points out the correct method of observation: and although his work contains no accurate measures, he was perhaps the first who, by observing the position of a remarkable block upon the Unteraar Glacier, indicated how such observations might be usefully made, instead of trusting (as appears to have been the former practice) to the vague report of the peasantry.' And let us not forget that Hugi, after some hesitation, guided the discussion of the 'old route

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<sup>43</sup> *Alpenreise*, p. 218.

<sup>44</sup> See Forbes' *Travels through the Alps*, new edition (1900), p. 437.

<sup>45</sup> *Travels through the Alps*, new edition (1900), p. 121.

over the Walchergrat ' into the right channel by his discovery that the entries in the parish registers of Grindelwald were dead against the tradition of a regular passage used by Valaisan wedding and christening parties<sup>46</sup> in the sixteenth century. And if in his early studies Hugi was driven to incorrect ideas as to the legendary passage and hence searched for a chapel of St. Petronella in the Fiescher valley, it was mainly because of the incorrect reading of the inscription on the old church bell of Grindelwald supplied to him, viz. :

SANCTA-PETRONELLA-ORA-PRO-NOBIS. 1044.

It is worth noting that in 1879 Gottlieb Studer, seconded by Friedrich Bürki, of whose alpine merits I will treat later, proved that this bell,<sup>47</sup> which was destroyed in the great fire of 1892, bore no date.

Hugi's alpine career began in 1822 and ended about 1842. It was, we may say, an honourable if not a splendid one.

#### NOTE.

By J. P. FARRAR.

Dr. Dübi will, I trust, permit the following remarks on his note 22. They are made with all the respect that is due to his acknowledged position as an able and acute Alpine critic.

Par. 1, line 14. Meyer's own words (par. 17 of my article 'A.J.' xxvii.) are :

' Auf dieser Seite, wo wir herabgekommen waren (westwärts) ist der Berg ganz ohne Schwierigkeit zu erklimmen,'

which surely only refer to the way they had just descended and not to a route *far away out of sight*, as no part of the N.W. arête would be visible.

Par. 2. We have Hugi's direct statement that Abbühl admitted that he had not reached the highest point in 1812. I showed in my article in 'A.J.' xxvii. the improbability of his having done so.

It should be noted that Dr. Meyer's words (on January 6, 1831) are : ' Hoffentlich wird es mir bis dahin [by next summer] noch möglich sein, Zeugnisse für die Ersteigung des Finsteraarhorns

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<sup>46</sup> In his masterly article, ' Zur Frage des alten Passes zwischen Grindelwald und Wallis,' in *S.A.C.J.* xxvii. pp. 253-274, my late friend, A. Wäber, does not mention this special merit of Hugi. So I make good this oblivion.

<sup>47</sup> *S.A.C.J.* xv. pp. 512-5.

vorzulegen.'<sup>48</sup> (It is to be hoped that by next summer it may be possible for me to present evidence of the ascent, &c.)

Dr. Dübi is able to point out that when Dr. Meyer wrote these words he may not have been aware that Abbühl had been killed on March 3, 1830. But no further 'evidence,' as we understand that word, was, in any circumstances, possible, as Dr. Meyer, on reflection, probably saw.

Par. 3. I cannot agree that 'in 1828 the real question was not whether the ascent by the S.E. arête was feasible but whether the N.W. arête offered a better route.' My view is that Hugi proposed to repeat the 1812 route, and for that very purpose took with him Abbühl, who led on that occasion. When Abbühl got, as I hold, to the Frühstückplatz and saw the two distinct summits<sup>49</sup> he, according to Hugi, realised his error in thinking that in 1812 he had reached the *higher* summit. Dr. Dübi thinks he only realised this when he reached the so-called Hugiattel; but from that point he could not distinguish the two summits at all and would gain no fresh knowledge.

I have always abstained from accusing Abbühl and his companions of any intentional deception, but it should be noted that when Abbühl and Huber, after their reputed ascent of the higher summit of the Finsteraarhorn on August 15, reached Grindelwald on September 3<sup>50</sup> they, 'who a fortnight ago were . . . on the summit of the Jungfrau, told us that the ascent is easy and without danger. But to climb the Finsteraarhorn is, so they say, a very risky undertaking.'

This is not the kind of statement a reporter could invent or get hold of by misunderstanding: it obviously suggests a certain willingness of the two guides to accept an unearned honour, since the ascent of the Jungfrau had been made by the two Valaisans Volker and Bortes and *they themselves had no personal knowledge of the ascent.*

With the utmost respect for the great authority of Dr. Dübi, I venture to adhere to the opinion as to the *probable* course of events, expressed in my article in volume xxvii. of this Journal.

# MONT DOLENT FROM THE GLACIER D'ARGENTIÈRE AND THE COL DES GRANDES JORASSES.

By RAYMOND BICKNELL.

(Read before the Alpine Club, February 1, 1921.)

IN his valedictory address at the end of 1919 our retiring President expressed views on the subject of guideless climbing in the high Alps which, to those of us who indulge in that most fascinating branch of our sport, were more

<sup>48</sup> *S.A.C.J.* xxvii. 385.

<sup>49</sup> See the picture with this paper, where they look equally high.

<sup>50</sup> *A.J.* xxxiii. 97.

encouraging than anything which had ever before fallen from the lips of authority in this room. Strengthened thereby, Shadbolt, Porter, and I left London on the third day of the following July to see what we could do in the way of putting precept into practice.

We began with a brief but strenuous campaign in Dauphiné, *terra incognita* to all three of us. A few hours after reaching La Grave we went to the Chalet de l'Alpe, and the next day ascended the Pic de Neige Cordier and crossed the Col Emil Pic to the Glacier Blanc. From our pass it had been our intention to descend to the Val Louise and to reach La Bérarde the next day by means of another modest climb. But right in front of us was the great north face of the Écrins, a brilliant and alluring vision of shining ice and snow under a cloudless blue sky. I suggested that it would be foolish to descend thousands of feet into a valley with so great a prize close above our heads; in a moment our good home-made resolutions as to a gentle beginning of well-ordered training walks were thrown to the winds, my suggestion was enthusiastically accepted, and instead of going to the Val Louise we slept at the Ernest Carron hut on the Glacier Blanc. By seven o'clock the next morning, with the help of a half-waned moon, crampons, and good snow, we were on the top of our peak, having accomplished the first ascent of the season.

For me this day was chiefly remarkable in that it showed at how low an altitude it is possible to suffer from every known symptom of mountain sickness, given a sufficient lack of previous training. I entirely disagree with the frequently expressed opinion that such ills are wrongly described as mountain sickness, being merely the result of insufficient training, for in my first few days in the Alps I invariably suffer acutely above 12,000 ft., whereas in Norway, where I have frequently made long and trying ascents immediately after landing, I have never noticed any traces of similar troubles.

We descended to La Bérarde by the Col des Écrins, and after resting there for a day we went to the Promontoire hut. Before we left the hut the next morning a gentle snow-fall had dashed all our hope of an ascent of the Meije; before we had reached the Brèche de la Meije the state of the snow had brought us to the unanimous opinion that our amended plan of an ascent of the Rateau must be abandoned, and in the end we were thankful to have got safely over the loose snow on both sides of the Brèche. At La Grave we learned that the Meije had not yet been ascended. Local opinion

was not very hopeful as to the possibility of a traverse so early in the season, but after two days of unbroken sunshine we thought otherwise and went back to the Promontoire.

In the last number of the *ALPINE JOURNAL* Harold Raeburn has expressed the opinion that 'for a party of three amateurs the Meije traverse will, unless they already know the mountain or have extremely favourable conditions, almost certainly result in a night out.' We found the mountain in a condition which could not have been described as extremely favourable, and I am glad to be able to do something to controvert Raeburn's gloomy forecast. We had no moon to help us, so could not leave the hut before dawn. Our time to the top of the Grand Pic was about the same as that given in the climbers' guide. So far we had little to complain of in the condition of the mountain. There were few places where we were not all climbing together, our only difficulty being in finding the way, and we afterwards regretted that we had not gone unroped up to the foot of the Glacier Carré. Beyond the Grand Pic there was an entire change. The northern slopes of the mountain were thickly plastered with ice covered with half-melted snow. The descent to the Brèche Zsigmondy required extreme caution, and occupied over two hours of continuous work. We had read of iron pegs and hooks. If they were there they were buried under the ice. The crack leading out of the Brèche was easy, but the slope leading up to the ridge immediately above it—a vile mixture of rotten rock, ice, and insecure snow—was very much the reverse. Doubts as to the soundness of the fixed rope caused us to abandon its help, and I thought the place distinctly difficult and for the leader a little perilous. The journey to the Pic Central went easily, but part of the descent to the gap to its east was almost as troublesome as that to the Brèche Zsigmondy. There followed a slow and anxious descent of the steep slope to the Col des Corridors, over snow so powdery that the wind whirled it into our faces in blinding clouds. Sir Claud Schuster may be interested to know that here we joyfully adopted the tactics for which he apologises in the third chapter of 'Peaks and Pleasant Pastures,' getting safely down the most doubtful part of the slope with the help of 120 ft. of light line doubled through a loop of rope, which in 1920, as in 1908, adorned the lowest patch of rock.

The net result of all this was that we reached the hut at the Rocher de l'Aigle with nearly three hours of daylight in hand. Thereafter, in spite of an unsuccessful attempt to



follow the wrong line on the Tabuchet Glacier and at a later period of the evening an involuntary, dark, and exasperating excursion into a jungle of scrubby bushes on a slope of slimy shale, we ultimately dined in La Grave. The next morning we suffered the terrors of a crossing of the Col du Galibier in a motor char-à-banc driven at a reckless speed down a rough, narrow, steep, and winding road, and we then took train for the northern side of the chain of Mt. Blanc, where we purposed to follow less trodden paths than in the Dauphiné.

My interest in Mt. Dolent dates from the reading of 'Scrambles in the Alps,' when I was a child. It was strengthened by the belief that three countries met on a snow pyramid at its top. Later came modern knowledge with its matter-of-fact disclosure that three countries do not meet on the top; but by this time I had seen the great rock wall which bars the extreme head of the Argentière Glacier and had been seized by a desire to climb over it into Italy. For a time that grim portal, the Col du Mt. Dolent, appeared to be the only direct road but before the war I had become aware of the possibility of a traverse of Mt. Dolent itself and in 1914 we had hoped to include it in a campaign, which was cut short after we had spent one day above the snow-line. From this time onwards the expedition kept a constantly high place in my ever-varying list of things to be enjoyed when the war should come to an end. So it was that when we reached Argentière this year it occupied the first place on our programme, and the day after our arrival we proceeded to the hut on the Jardin d'Argentière.

Mt. Dolent is roughly a pyramid, the four faces being divided by four sharp and well-defined ridges. The S.E. ridge running up from the Petit Col Ferret is the Italian-Swiss frontier, and divides the Italian Glacier de Pré de Bar from the Swiss Glacier du Mt. Dolent. The E. ridge, which is wholly Swiss, divides the Glacier du M. Dolent from the Glacier de La Neuvez. At the meeting of these two ridges is the highest point, 8833 metres, to the north of which there is a continuation of the Italian-Swiss frontier, on a ridge which for a short distance divides the Glacier de Pré de Bar from the Glacier de La Neuvez. The N. ridge, running up from the Brèche de L'Amône, is the French-Swiss frontier and divides the Glacier de La Neuvez from the Glacier d'Argentière. The W. ridge, running up from the Col du Mt. Dolent, is the French-Italian frontier and divides the Glacier d'Argentière

from the Glacier de Pré de Bar. These last two frontier ridges, the N. and the W., meet together on the Italian-Swiss frontier at a point considerably to the north of and about 200 ft. lower than the highest point of the mountain. The meeting-place of the three countries is not, therefore, as was once generally supposed, on the real summit.

The first ascent was made in 1864 by Whymper and Adams Reilly by the Glacier de Pré de Bar and the S.E. ridge.<sup>1</sup> With the exception of slight variations of the original route, no other way of reaching the top was discovered for thirty-five years. In 1901 M. Julien Gallet and his guides climbed from the Glacier du Mt. Dolent to the E. ridge, which they followed to the top.<sup>2</sup> This E. ridge, which is mostly snow and ice, looks exceedingly attractive from all points of view. I have examined it from high up on both sides and strongly recommend it to anyone who desires a fine ice climb, neither excessively difficult nor long. Porter and I once bivouacked for this ridge at the foot of the glacier, and spent a delightful night beside a juniper fire before rain came in the early hours and frustrated our attempt. In 1904 M. M. F. Fontaine and his guides climbed from the Glacier de Pré de Bar and reached the W. ridge at a point just east of the Col du Mt. Dolent. They then made the long traverse up and down along the ridge to the highest point.<sup>3</sup> A month later MM. Julius Kugy and Graziadio Bolaffio and their guides reached the Swiss side of the Brèche de L'Amône from the head of the Glacier de La Neuvaz and thence made the first ascent of the N. ridge. They put it on record that the ascent of the upper part of the glacier was excessively dangerous, and anyone who has had an opportunity of observing their route at close quarters will have no difficulty in agreeing with them. It is essentially a dangerous rather than a difficult route and I most strongly recommend its avoidance.<sup>4</sup>

Thus were all four of the main ridges climbed without anyone having made an ascent from the French side. This final problem was solved by the enterprise of MM. Kugy and Bolaffio, who returned to the attack in 1906. From the head of the Glacier d'Argentière they climbed the steep rock wall which runs up to the Brèche de L'Amône and thence followed

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<sup>1</sup> *A.J.* i. 374; ii. 101.

<sup>2</sup> *Jahrbuch S.A.C.* xxxvii. 6.

<sup>3</sup> *L'Écho des Alpes*, 1910, p. 228.

<sup>4</sup> *Alpi Giulie*, 1906, p. 109.

their route of 1904 along the N. ridge.<sup>5</sup> In 1911 the second ascent from the French side ended in disaster. The party of Dr. Thomas, following the route of 1911, were close to the top when a great boulder, which was perched upon the ridge, overbalanced as it was touched by Auguste Blanc, the leading guide, and falling upon him, carried him to his death on the slopes of the Glacier de Pré de Bar.<sup>6</sup> So far as I can discover, the ascent was not repeated till last year, and as we appear to be the only English party who have ever been on this side of the mountain I have thought that a description of our climb may be of interest.

We left the hut at three o'clock and by dawn we had walked to the head of the Argentière, and for the first time were able to examine our route at close quarters. The flat surface of the glacier is divided from the Brèche de L'Amône by a well-developed bergschrund, a short but very steep slope of ice and snow and a smooth rock wall. The rock wall is cut from its base to a point close to its top by a shallow gully, which inclines slightly to the left and ends directly below the Brèche. The line of ascent follows the general direction of this gully. It was obvious that the ice slope was going to give us considerable trouble, as the only two bridges over the schrund were placed, the one far to the right and the other far to the left. It did not, however, appear very probable that we should fail to find a way into the Brèche, the difficulties which we subsequently encountered on the rocks being matters of detail hidden from our eyes at that distance. These things having been contemplated, we put on crampons and crossed that one of the bridges which was to our left. We then climbed horizontally along the ice and snow immediately below the rock face and close above the schrund, in the direction of the gully. At times we were able to rely upon our crampons, at others we were obliged by the steepness and hardness of the slope to cut every step. At one place time was saved by a retreat into the narrow gulf between the ice and the rocks, where we progressed, ungracefully perhaps, yet enjoying a feeling of security unknown upon open ice slopes set at high angles. In all, the passage of this slope, from our crossing of the schrund to our arrival at the foot of the gully, occupied an hour. The rocks were grey granite of the best Mt. Blanc description, sound beyond reproach and cut into convenient

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<sup>5</sup> *Rivista Mensile*, 1907, p. 261; *Ö.A.Z.*, 1907, p. 9.

<sup>6</sup> *A.J.* xxv. 731.

steps, up which we went in ease for some hundreds of feet in or close to the gully. The gully then dwindled for a space into a narrow crack of an unpromising aspect, and we followed in the steps of our predecessors by climbing out of it up a slab to our right. This slab is some 60 ft. high. Its lower part is easy, but at its top is a section, smooth, wet and almost devoid of foothold. The leader of the first party is reported to have surmounted this obstacle by a clever manœuvre with the rope. Porter, who, as usual, had been called upon to lead when the rock work became serious, was unable to find any way of helping himself with the rope, but went up with his customary ease and quickness. My clever manœuvre with the rope consisted in a direction to my leader to continue his ascent till he was able to hold it straight above me. I then grasped it firmly, and being at the moment more interested in a rapid arrival at the top of my mountain than in the technicalities of slab-climbing, scrambled over the bad piece without any very close attention as to the whereabouts of my feet. I am therefore in no position to gauge the exact difficulties of this passage, but Porter expressed the opinion that they were great and, his standard of rock-climbing being of the highest, it is safe to conclude that the place is very far from easy.

Above the slab we took a diagonal line upward to our left, over easy rocks, till we were back in the gully again. This we followed to the point, some 90 ft. below the ridge, where it comes to an end at the foot of a rock wall, which is an impassible barrier. Here our predecessors had traversed to the left round the buttress, which bounds the gully to the north, and by means of an overhanging chimney and a difficult slab had gained the ridge to the north of and a little above the Brèche. After a cursory and unsuccessful search for the overhanging chimney we returned to the gully. Our search was cursory because Porter had already announced that he didn't see what was to prevent him from climbing a straight narrow chimney, which divided the rock wall at the head of the gully from the buttress on its north side. This, then, he proceeded to do, taking out nearly the whole of our 80-ft. rope before he reached a ledge at the top. Placed in the Cumberland fells within a seemly proximity to one's hotel and some 2000 ft. above sea-level, this chimney would probably rank as a fairly easy place. Encountered at an altitude of 11,000 and after a good many hours of hard work, it appeared to me to be distinctly difficult. An offensive

overhang of one wall caused the rope to pull me outwards and I had to go up, fortified, it is true, by its protection, but not directly helped by it to the extent that I would have wished. I must confess to having arrived at the top in a state of temporary exhaustion. Rucksacks and axes having been pulled up, Shadbolt followed them, I the meanwhile gasping on the ledge above and feeling uncharitable joy in hearing that he at least emitted some snorts as he came up.

On our narrow perch there was barely room for the three of us to cling. Some 15 ft. above our ledge, and to our right, was the narrow cleft in the ridge, which is the lowest point of the Brèche. To reach this cleft it was necessary to swing round a smooth rib of rock, our hands working up a secure crack but our legs in a state of semi-suspension. From below this passage had a highly unpleasing appearance, but necessity having forced us to the attempt, we all found it unexpectedly easy. It may have been the deceptive appearance of this final traverse from below, which drove our predecessors to seek the route to the left, which they found so difficult, for, so far as the chimney is concerned, our route is the obvious one.

At 9.30, 6½ hours after leaving the hut and 5 hours after crossing the schrund, we were basking in the sunshine on the Swiss side of the ridge, happy in the knowledge that the most serious part of our undertaking was behind us. The northern ridge is for the most part narrow and sharp. For a time we climbed easily along ledges on the Swiss side. As we got higher the rocks became disconcertingly loose. At one point I kicked a stone weighing a few pounds down the side of the ridge. It fell a few feet on to the top of a boulder some 6 ft. long by 4 ft. wide. This great mass—'balanced evidently only by a miracle and with an instability impossible to have foreseen,' to quote the description of the similar boulder which caused the death of Auguste Blanc—instantly plunged down the slopes below us, gathering with it as it went a formidable avalanche of stones and snow, which swept down the southern head of the Glacier de La Neuvez, thereby finally confirming my opinion that the Swiss side of the Brèche de L'Amône is a place to be avoided.

Above this loose section of the ridge followed snow and ice, where a heavy cornice on the Swiss side forced us down into France. Here for an hour we made slow progress on a face broken into unpleasant curved furrows and ribs of the type which I describe on the authority of our President as

'accordion pleats,' and so steep that we were obliged to go with faces turned to the slope, on the one side of the ribs kicking steps into firm snow, on the other cutting into hard ice. This led us to the point where the three frontiers meet, above which is the scene of the accident of 1911, a chaos of loose rocks piled up upon the almost horizontal ridge in a state of great insecurity. Having very gingerly made our way over this, we reached firm steep slabs almost embedded in ice, where a good deal of cutting of steps and scraping of ice from the rocks on the Swiss side of the ridge took us to the snowy summit, which we reached at 2.15, 11 hours and 20 minutes after leaving the hut.

Mt. Dolent is undeniably a mountain with an easy side, and our descent to the upper part of the Pré de Bar Glacier and thence to the Col Ferret track and La Vachey in the Italian Val Ferret calls for no description.<sup>7</sup>

Time was when the Col des Grandes Jorasses was much maligned, and mountaineers have been scared away from it on insufficient grounds. From the French side the appearance of the pass is extraordinarily attractive. Immensely high up on the frontier ridge a delicate bow of shining snow fills the sharply cut gap between the dark cliffs of the Jorasses and the Rochefort. I could never look at this gap, nor even Donkin's photograph of it, which hangs on our stairs here, without wishing to stand in it.

The history of the pass begins in that great year of Alpine adventure, 1864, when Messrs. Alfred and A. W. Wills, F. Taylor and A. Milman with two guides and two porters left the Montanvert at 2.30 in the morning, and after a prolonged struggle with the difficulties of the Glacier du Mt. Mallet, reached the col soon after 4 o'clock in the afternoon. Here they looked down the great couloir on the Italian side and decided that a descent was impossible. In their written records of what they saw they made free use of such decisive phrases as 'No possibility however remote,' 'The descent proved hopelessly impracticable,' and 'Sheer drop of many

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<sup>7</sup> For a picture showing the La Neuvaz face of Mt. Dolent, the Brèche de L'Amône and the S.E., E., and N. ridges, see *A.J.* xxiii. 425.

Those who wish for fuller information as to the topography and history of Mt. Dolent should refer to the admirable monograph of Mons. Marcel Kurz in *L'Écho des Alpes*, June 1910.

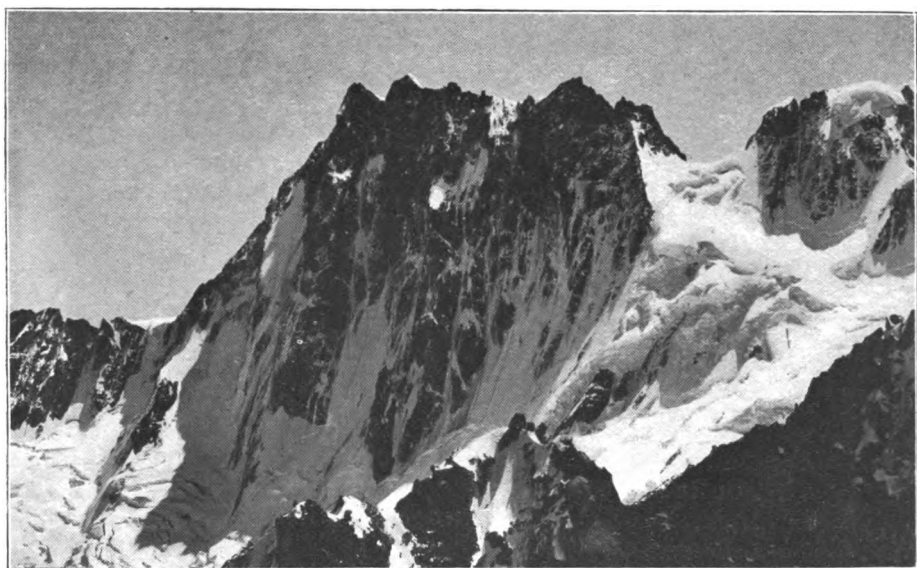
COL DES GDES. JORASSES



THE GÉANT TO THE JORASSES  
FROM THE PUNTA BIOUS

COL DES HIRONDELLES

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*Photo S. Spencer]*

GRANDES JORASSES AND N. SIDE OF COL  
FROM LES PÉRIADES





hundreds of feet of smooth and treacherous rock.' In that they decided not to attempt a descent so late in the day, their judgment was, of course, perfectly sound, though time has shown that the rocks upon which they looked down are not as inaccessible as they supposed.\*

Beyond the bare record of the fact that Mr. Eccles once turned back from an attempt on the Italian side, I can find no further mention of the pass till its first crossing by our fellow-member, Mr. Thomas Middlemore, on July 18, 1874. His party bivouacked on the grass slopes just below the Glacier de Planpansière, reached the col by the great couloir and descended to Chamonix. In the following year Mr. Middlemore read a paper to this Club describing his expedition. Thereupon broke out a storm of protest, some part of which is reflected in the pages of our JOURNAL. To the impartial reader of the twentieth century, who has nothing to guide him but that part of each side of the case which is printed in the JOURNAL, it may well appear that the critics were denouncing sins of which there is little evidence in Mr. Middlemore's paper. He expressly states that in the couloir on the Italian side, the ascent of which was the chief cause of contention, he was able to keep out on the wall quite clear of the 'ice, stones, and such small débris' as from time to time came down it. Most of the falling stones which play so large a part in the story of the ascent appear indeed to have been dislodged by the leading guide.†

The second crossing, a desperate adventure in a snowstorm, on September 3, 1894, was also made by a member of this Club, Mr. Evan Mackenzie. No English account of this expedition has ever been published, and the source of my information is the 'Rivista' of the Italian Alpine Club. In August Mr. Mackenzie had made two unsuccessful assaults upon the Italian side, the second a determined effort, which only came to an end 100 mètres below the col after a narrow escape from an accident, when a porter fell off a guide's shoulders while trying to surmount a difficult rock. Mr. Mackenzie then went round to the French side, and, warned by the experience of the 1864 party, who had taken nearly fourteen hours to reach the col from the Montanvert, he bivouacked high up on the side of the Glacier du Mt. Mallet and reached the schrund immediately below the col at 8 o'clock the next morning. The crossing of this schrund

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\* *A.J.* i. 430; ii. 114.

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† *Ibid.* vii. 104 and 225.

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occupied 2½ hours. On the slope above it they were overtaken by a snowstorm, and so difficult had the crossing been that they preferred to go down the Italian side rather than go back. The rest of the day was taken up with the descent of the couloir in heavy wind and continual snow. They groped their way down the upper part of the Planpansière Glacier through snow and darkness without a lantern and with only 12 metres of rope for a party of four, the rest having been left behind in the couloir. The remainder of the night was spent on the Rocher du Reposoir, and they ultimately got down to Courmayeur the next morning. This appears to have been the one and only crossing from north to south.<sup>10</sup>

The subsequent crossings of the pass have been few. I know of three made by Italian parties, in two of which members of our Club were concerned; but I can find no other record of an English crossing other than that made by our late friend Broome in August 1898,<sup>11</sup> though one of Mr. Ryan's unrecorded expeditions with the Lochmatters seems to have taken him into the col in 1904, and in 1911 Geoffrey Young's party climbed the Italian side on their way to the first ascent of the western ridge of the Punta Margherita.<sup>12</sup>

For two nights after our traverse of Mt. Dolent we lay at the little chalet inn of La Vachey, the intervening Sunday being spent in rest and a journey to Courmayeur to fetch the necessary provisions for the continuance of our climbing. On the Monday we went up to the Grandes Jorasses hut, and on the Tuesday we climbed the Grandes Jorasses, finishing our ascent by a variation of the ordinary route, to which my attention was first called by the German mountaineer Fräulein Hasenclever, whose party was the first to follow it. From the top of the Rocher du Reposoir we did not make the usual and sometimes dangerous crossing to the Rocher Whymper, but went in a straight upward line, first on a snow slope and then on rocks, to the frontier ridge. These rocks were so easy that we took off the rope before going up them. We struck the ridge at a snow-covered portion just east of the first rock tooth below the eastern ridge of the Punta Margherita. From this point we followed the ridge to the Pointe Whymper without any difficulty, sometimes on a crest of sound snow and sometimes on easy rocks.

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<sup>10</sup> *Rivista Mensile*, 1895, p. 1.

<sup>11</sup> *A.J.* xix. 412.

<sup>12</sup> *Ibid.* xxv. 737; xxvi. 231.

We went somewhat leisurely, having ample time in hand, and as our time from the hut to the top was just about that which is given in the climbers' guides for the usual route, it seems that the variation takes little if any longer. If there be any doubt as to the behaviour of the snow it is the sounder route of the two.<sup>13</sup> This day, with perfect weather and rocks and snow in ideal condition, was something of a picnic. The crossing of the Col des Grandes Jorasses, which we accomplished the next day, can hardly be so described, though it proved to be much easier than we expected.

We spent a second night at the hut, and moved out again soon after midnight. For a time we had nothing to think about, for with the help of a lantern we were able to follow our tracks of the previous day, and so made very rapid progress. Then we diverged to the left, and at dawn were in a line immediately below our pass. Above us was a fan-shaped slope of snow and ice, its curved base ending in a great semi-circular bergschrund, and its sides bounded at the top by smooth rock walls. Where these walls converged a narrow couloir filled with ice and at first only a few feet wide ran up to a saddle of snow at the top of the pass. In big mountaineering without guides the mind is often so occupied in considering the immediate problem of the moment that for a time it remains blank to all else. In looking back and trying to reconstruct this scene, I can recall very little beyond the appearance of the couloir itself, and I find that the strongest impression was made on my brain by the exceptional extent to which I had to tilt back my head before my eyes arrived at the snow saddle at the top of the pass.

At 3.30 we were over the schrund, and just above it we rested for a few minutes under the protection of a minute rock island, probably in the exact place used for a similar purpose by Geoffrey Young's party in 1911. Above this island the surface of the slope was of just that hardness which enables one to describe it as snow if one wishes to belittle a climb and as ice if one wishes to magnify it. Here was the great justification of the crampons, which had not done much in return for their portorage since we carried them out of Argentière. A party such as ours does ill if it encumbers itself with any hard and fast rule as to who is to lead it. When the business of the day is to go far and fast, it had better make full use of such talents as are given to each of its members.

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<sup>13</sup> *Ö.A.Z.*, 1909, p. 268. *A.J.* xxv. 85.

Frequently last summer the front of our rope became the back and the back the front, nor did the man in the middle ever know that he might not be torn from his repose and called upon to assume a position at either end. So it is that Shadbolt, who was born with the talent of walking in steep and slippery places on claws, is now dragged into the lime-light. Shod with a pair of super-crampons, long and sharp as to the spikes, heavy beyond belief yet excessively efficient, he raced up this slope at the head of our rope. I had one crampon only, the other having broken in half on the descent of Mt. Dolent. This, however, was of the long and sharp-spiked Eckenstein variety, and with its help and a tightly strained rope above me I was just able to keep pace with Shadbolt, or perhaps I should say, to hold him back to my pace. In twenty minutes we were at the top of the slope. Without crampons we should have had to cut every step with the pick, and I do not think that we should have done it in less than two hours.

We were pulled up under the rocks of the Punta Margherita by ice too hard and steep for further progress without step cutting. Consequently we cut horizontally across the slope to a patch of rocks on its W. side. Being not yet certain that the couloir would not throw stones at us, we made this crossing with some apprehension, and the necessary steps were cut with the utmost haste. Having reached the rocks we took off our crampons, climbed easily some hundred feet to the narrow entrance to the couloir, cut a few hurried steps back to its eastern side and again landed on the rocks, this time inside the couloir and close to its icy bed. The ice was quite unclimbable, being a series of perpendicular walls divided by horizontal shelves, a frozen waterfall rather than an ice slope. A little above the level of the ice and between it and the steep eastern wall of the couloir was a narrow slope of rock up which we climbed, often close to the ice yet out of reach of anything which might have come down it. In places the rock was much shattered, yet at this time of the morning the whole was so firmly bound together by a cement of hard ice that we were able to climb it in perfect safety. Our pathway came to an abrupt end at a point high up the couloir, level with the foot of a rock rib which divides the ice stream in two. Here we had a choice between the rock rib and the farther wall, which at this level for the first time began to look feasible. The rock rib being the nearer we cut across the ice to it and climbed to its flat top, which we reached

at 7.45. Here all possibility of danger on the Italian side being at an end, we sat down for our first meal.

Between us and the top of the pass, some 100 ft. above, was a slope of snow crowned by a cornice. I should have enjoyed my meal more could I have seen what was on the other side. At the end of the day it was observed that when we started in the morning each of us had been obsessed with a different false alarm. Shadbolt, his mind full of a vague knowledge that the Italian slope was said to be dangerous beyond reason, had raced up the ice below the couloir in imminent expectation of receiving a stone or a lump of ice on his head. Porter, misled by a description in the Austrian guide of what must be an alternative way on the buttress to the east, had expected that he would have to find an intricate route and lead up excessively difficult rocks. My fears were the last to be dispelled. I had more than once seen the final slope on the French side bare, icy and shining, the central part broken into an impassable ice cliff, the two sides guarded by a wide and open schrund. Broome had described it as 250 ft. of nearly vertical blue ice, and Porter had extracted from his guide-book the information that it is an 'Eishang' 80 mètres high. I did not know the exact shade of meaning which should be attached to this word, but at the time it seemed to me ominous and appalling, and my food stuck in my throat as I thought of myself cutting 250 steps down it. It was well that I had not then read Mr. Mackenzie's account of a schrund which took  $2\frac{1}{2}$  hours to cross.

The cornice did not give us much trouble. I was just able to get high enough to reach its crest with an outstretched axe, and in ten minutes had produced a sufficient hole. Then, supported by Shadbolt from below, I clambered into a niche prepared for the purpose, from that on to my axe thrust horizontally into the wall, got my arms into France, thrust into that country Porter's axe handed up to me by Shadbolt and pulled myself after it. There was a considerable chance that my precarious handhold or foothold might give way and precipitate me on to Shadbolt's head, but we were able to look forward to this calmly, for the snow slope below us was in a state of such admirable plasticity that we could not have failed to stick in it. Had it been hard, our method of crossing the frontier would have been more ceremonious.

Assembled on the top of the pass we became jubilant, for a glance was enough to assure us that we should get down without serious difficulty. Directly below us the slope curved

down and disappeared in a few feet, but at the sides we could see enough to know that it was snow rather than ice, while both to the left and right, close under the cliffs of the Rochefort and the Jorasses, were places where it seemed probable that we should be able to cross the schrund. Truth compels me to confess that the Eishang proved to be a very ordinary slope of hard snow at an average angle of 50°. Down this I went in one long diagonal line to the western end of the schrund, my left foot firmly supported by its crampon, my right requiring every step to be carefully cut for it. Once again I observed the cramped position into which the body is forced by the necessity of cutting down so steep a slope, and once again I wondered at the statement in the Badminton Library 'Mountaineering' that it is far easier to cut down than up. We hit the schrund at a place where the upper lip overhung the lower, and, Shadbolt having volunteered to jump, we wasted no time in looking for a bridge. Porter and I slid down some 12 or 15 ft. on a doubled rope, and Shadbolt, directed by us from below, made his way to the lowest possible point on the overhang, and then taking to the air landed neatly on the ridge of soft snow beside us.

Here ended all anxiety as to the result of our expedition, and our only concern was to so order our movements for the rest of the day that we might reach Argentière in good time for dinner. From the Pointe Whymper we had seen that if we patiently skirted round the extreme edge of the Glacier du Mt. Mallet, close under Mt. Mallet and the Périades, we should avoid the many impassable sections of that much-crevassed glacier and ultimately thread our way to the level of the Glacier du Lechaux. Patience was indeed needed, for we were soon wallowing under a burning sun in a morass of soft snow, and for a time we suffered the disgusting additional torment of finding that the only possible route down took us steadily uphill. The prospect of a fine afternoon being certain, we made no great haste on our downward journey, landed on the rocks of the Capucin ridge for a restful lunch, spent an hour over our tea at the Montanvert, and then crossing the Mer de Glace reached Argentière at 6.30.

At our last winter dinner our President urged us to lift our eyes beyond the much-frequented Alps and go to the unexplored mountains of Canada or Arctic Norway. Far be it from me to preach against such sound counsel. I am only prevented from following it by the fact, of which the President

himself reminded us, that it is well to be away for six weeks if one hopes for a fair share of climbing in a holiday spent amongst such distant mountains. There are some of us who are lucky if we can get away from our work for a holiday of more than half that length. For us, I fear, the Alps must continue to suffice. This being so, it is natural that we should desire to find fine climbs upon which the curse of popularity has not yet fallen. We seek opportunities of using our own store of experience in thinking out the details of our game, and our own judgment in deciding what may be safely done and what should be wisely left undone. So we look for places not yet overrun with other climbers, where it is improbable that we shall suffer the disappointment of finding professionally led parties in front of us. As climbing becomes more and more popular, and the average standard of skill higher and higher, this becomes a difficult quest, and we have got to be more and more on our guard against places which are unfrequented because they are dangerous rather than difficult.

Personally I have the very strongest distaste for those dangers which a climber cannot avoid, be his skill small or great. I have no use for slopes which are periodically swept by falling ice, and in the sport of stone-dodging, described with such gusto by Mummery, it has long appeared to me that the odds are not sufficiently in favour of the dodger.<sup>14</sup> No one of the three of us looked upon either of the two expeditions which I have tried to describe to-night as exceptionally dangerous. Given a leader who can climb it, the face between the Argentière Glacier and the Brèche de L'Amône is a very safe place. Nothing fell down it while we were there, nor is it a place where anything of consequence is likely to fall at any time of day except after fresh snow. It has been proved that the looseness of the ridge above the Brèche can be a danger, and I am told that the accident to Blanc has made some guides reluctant to undertake the expedition. This is natural enough, but the accident might have happened on many popular mountains, and the north ridge of Mt. Dolent is no more dangerous than other loose places—for example, the rocks on the Italian slope of the Col de Miage, which have been used as mountain highways any time these last sixty years.

As to the Col des Grandes Jorasses, I give my vote for its acquittal of the charges brought against it, for with due

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<sup>14</sup> *My Climbs in the Alps and Caucasus*, p. 37.

precautions as to time and weather I can see nothing on either side of it to make it more dangerous than other expeditions, which have long been looked upon with general approval. From our crossing of the bergschrund to the beginning of our descent,  $5\frac{1}{2}$  hours in all, we were in or close to the couloir on the Italian side, and during that time we neither saw nor heard anything go down it, with the exception of one small stone, which fell from immediately below us and had probably been dislodged by our passage over it.

Let nothing which I have said be interpreted as an assertion that this couloir is a healthy place in which to spend an afternoon. It must be remembered that we were safe on the top of the rock rib close under the col before 8 o'clock in the morning. Up to that time no part of the couloir had been touched by the sun. Mr. Middlemore, on his much criticised first crossing, unaided as his followers have been by crampons and a comfortable hut more than 9000 ft. above the sea, reached the same point at about 4 o'clock in the afternoon.

## SUCCESSES AND FAILURES IN 1920.

By NOEL E. ODELL.

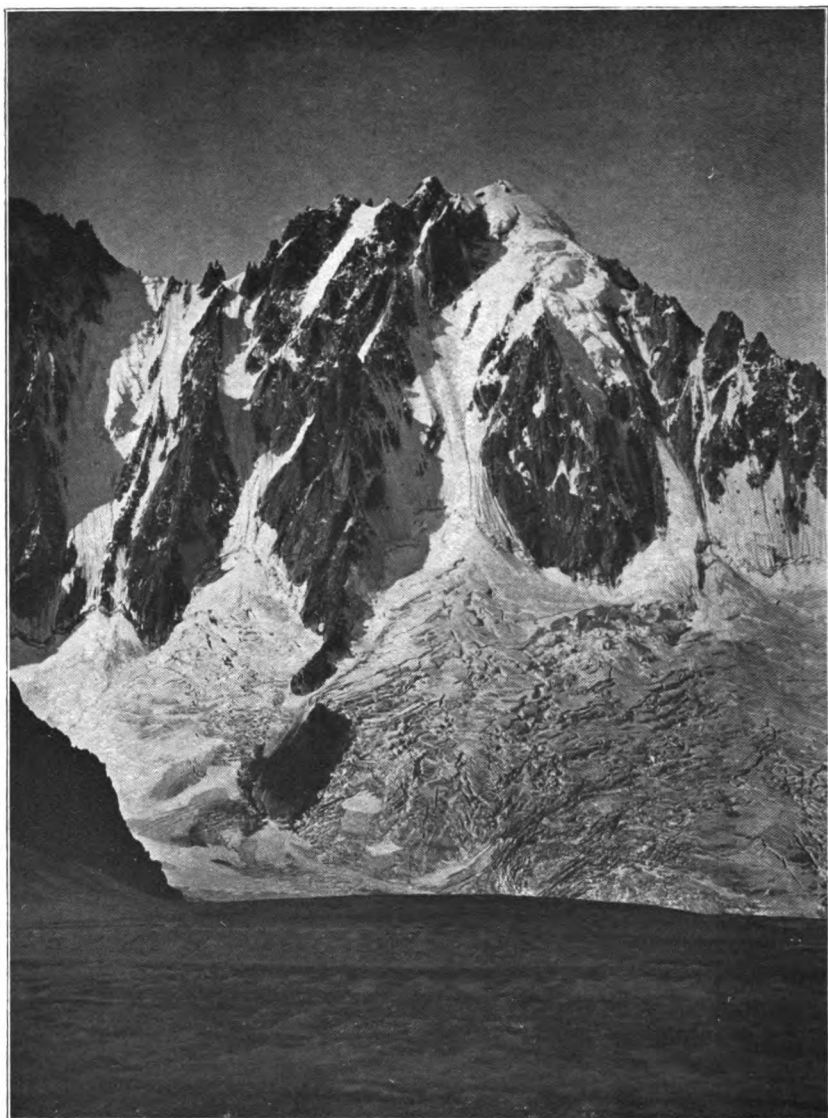
(Read before the Alpine Club, December 6, 1920.)

WE were greeted on our arrival at Argentière, on July 3, by torrents of rain, and every feature down to about 6000 ft. was enshrouded in cloud. This was at once attributed to the advent of that member of the party—a meteorologist, by the way—who has the reputation of bringing bad weather wherever he goes, at least in British mountains: it looked as if the extent of his evil influence was wider even than he had supposed! However, the optimists of the party triumphed, and by evening three happy individuals were to be seen visiting the snout of the Argentière Glacier, and even literally tasting glacier-ice once more after so many years' absence from its spell!

The day after arrival some of us walked down to Les Bossons by way of training, and endeavoured, with partial success only, to procure crampons from Simonds' 'Fabrique.' (In passing, it may be mentioned that Simond Frères turn out an ice-axe with wonderful balance and for real use.) We







*Photo S. Spencer]*

**AIGUILLE VERTE  
FROM COL DU CHARDONNET**

returned to Argentière by way of the Montanvert and the Mer de Glace.

The following day there seemed to be a general restlessness to be off and doing something serious. Consequently Frazer, Stobart, and I left Argentière in the afternoon, and toiled up the track to the Lognan, adding to our already sufficiently loaded rucksacks what firewood for the hut we could collect in the woods. The Lognan inn proved, as it ever did on later expeditions, a most demoralising flesh-pot to climbers bound for the Jardin hut, although the opinion was always stoutly advanced that indulgence here saved consumption of supplies at the hut! Anyhow, whether or not this was the cause of it, the party undoubtedly took its time on the long walk up the glacier to the Jardin. And well it might, for what lovelier place is there than the Argentière Glacier when the evening sun strikes up that long vista towards the Col Dolent with its array of steep icy precipices on either hand. Before leaving England Captain Farrar had told me about his attempt on the Aiguille Verte from the N.E. by an arête running steeply up from the Argentière Glacier. This attempt he made on August 21, 1898, with the guides Daniel Maquignaz and Kederbacher. They got about half-way or so up the ridge when the difficulties and the approach of night obliged them to turn back. I wish Captain Farrar could have been here to-night to tell us all about this expedition.

We identified this ridge running up from the huge rognon in the glacier. It seemed in its lower part to offer wonderful stretches of clean rock ridge, and higher up all the uncertainty and complexity of character and structure that go to form a really first-class climb. But in our untrained condition it seemed folly to entertain any idea of tackling such a proposition. The hut had been occupied by a party a month previously, who according to the book had made the first ascent of the season of the Aiguille d'Argentière. This had been our intention, as a very good training climb. But whether from the invigorating effects of hot soup and tea, or from the spell induced by that marvellous scene from the door of the hut—the unsubstantial forms of the Verte, Les Droites, and Les Courtes bathed in moonlight—the extremists of the party had the audacity to suggest that the aforementioned ridge of the Verte looked too enticing to be neglected on the morrow, and that at least an attempt might be made upon it! The night was cold and the weather most promising. There was the chance of a new route completed and a first ascent of

the Verte for the year. We would go prepared for a night out.

We were off at 3.45 A.M., and soon sped across the glacier to the rognon at the foot of our ridge. By 4.30 we had skirted the rather crevassed portion of glacier on the S. side of the rognon, and were starting up the ridge. Almost from the very outset the climbing was severe—that is to say, severe as adjudged by British rock-climbing standards. The first big gendarme looked impossible to take direct, so after traversing round on to the right side of it in hopes of easier ground, a way was found up its steep N. face. The rock-structure was of that uncompromising holdless character, with joints or ledges about 20 ft. apart, and formed angular recesses just too wide open to climb effectually by ‘bridging.’ I could only get up one or two places by jamming my axe and then practically swarming up it. A second breakfast at 7.10 gave renewed vigour for the struggle—a struggle with some of the hardest rocks within my experience. As we got higher we were confronted with snow treacherously plastered on to the rock slabs. One had to cut a step and then very gingerly climb into it for fear of its breaking through into the next one below. At some places it was necessary to clear long stretches of snow from the rock, and at others to deal with verglas, or cut steps in a sub-layer of ice stuck on to the rock. After several hours of strenuous work of this nature we reached at 1 P.M. a *dos d’âne* of rock running up from a gap in the ridge. Captain Farrar had told me that the highest point reached by his party was a small gap in the ridge with a sensational *dos d’âne* above it, and that they had piled some stones together in the rocky cup of the gap. Well, the stones, if there, were deeply submerged in snow, but we concluded we had reached his highest point.

The *dos d’âne* was surmounted after much struggling and anxious inquiries, meanwhile, from those below. The top of it landed one on a gallery on the great N. wall of the ridge, and a more stimulating situation it would be hard to find. To gain the *arête* again from here was the next problem, and while the second man jammed himself for a belay in a horrid wet crack at the back of the ledge, the leader negotiated what was considered one of the hardest pitches of the climb, that is, a slab at a high angle with a 6-in. coating of snow. But the *dos d’âne* already passed was a small affair compared with another higher up. Here one straddled a painfully sharp steep knife-edge at a considerable angle for 80 or 90 ft. with a

most profound drop down to the ice-slopes descending from the ridge of the Grande Rocheuse.

Meanwhile, clouds had been gathering around the summit above us, and we had been too occupied to notice occasional falling snow-flakes. At 4 P.M. it was put to the party that we must either turn back at once or find a place where we were, or higher up, for the night, and try to reach the summit the next day. In view of the bad weather prospects it was regretfully decided to retreat. We had reached an altitude of about 12,000 ft., and not much more than half the total length of the ridge, as far as we could judge, and there seemed to be a good many hours of hard climbing ahead up to the summit. After descending nearly as far as the first *dos d'âne* we thought it looked possible to get off the ridge on the S. side if the final cliff above the *bergschrand* were negotiable. We scrambled down a fairly easy gully, and after searching in many directions found we were quite cut off by a sheer 300-ft. wall and an impossible looking *bergschrand*. So the only thing to be done was to climb up again to the *arête* and descend by way of all the difficulties of the morning. One abortive attempt was made to get down the steep *northern* slopes to the glacier, and then darkness overtook us and we had speedily to find a place whereon to spend the night. All that there was available for a perch on this steep N. face of the ridge was a split block sticking out of the ice-slope, and in the crevice of this block, scarcely more than 2 ft. wide and 3 ft. long and open at the ends, we huddled together for the night. Although it snowed on us most of the night, and we were at an altitude of about 11,000 ft., yet by dint of singing loud and long, the programme extending through Stobart's almost inexhaustible *répertoire* to any and every hymn we could think of, we were enabled in some small degree to ward off shivering—at any rate that of the audible variety—and keep ourselves more or less awake. Vivid lightning to the N. and E. and ominous rumblings of thunder gave lively imaginings of excitement to come in our exposed position. At 3 A.M. we carefully and painfully straightened ourselves out from the cramped position of the night, and no cases of frost-bite were reported. On the first gleam of light at 4 o'clock we saw that our difficult work of yesterday was rendered more difficult for the descent by the fresh coating of snow on everything. All the cramp and chill of the night were soon forgotten on the first stretch of extremely delicate work down smooth rock alternating with ice—the

whole freshly covered in snow. At 7 A.M. we reached a sufficiently commodious ledge, and we were right thankful to be able to relax tension and eat the remains of a lingering supply of food. From here we could see a likely bridge over the bergschrund below, and accordingly we cut straight down to it to avoid the difficult work of the previous day on the N. side of the first towers. By 9.30 we were across the bergschrund, and not a little thankful to terminate for the time being our visit to the N.E. face of the Verte after thirty hours on it. Lognan was reached at 11.30, and not long after Argentière, where the rest of our party were anxiously awaiting us, having expected us back not later than dinner-time the previous evening.

Captain Farrar has lent me a copy of an extract from the *Bollettino* of the Italian Alpine Club, published in 1905. It contains a description by the Signori Gugliermina, E. Canzio, and G. Lampugnani of the climbs on the Aig. Verte up to that date, and contains some instructive illustrations. Captain Farrar has marked on a view of the N.E. face his line of route and the probable height reached. It seems to show that he got higher than we did, but what is more interesting, he avoided a great deal of the difficult climbing on the lower part of the ridge by cutting in on the S. side and striking the arête proper somewhere where we tried to make a hurried exit and failed on the descent. Apart from the difficulty of prospecting steep rocks from above, the bergschrund this year was quite impossible at the point where he crossed it. He says our conditions must have been much worse than his.

A route which starts in the couloir to the S. of our arête was made in 1895 by Mr. V. A. Fynn and Mr. P. Goudet. They eventually worked on to the buttress of rock to their left, which led them to the foot of the Grande Rocheuse: they descended on the Talèfre side. In 1876 Messrs. Cordier, Oakley-Maund, and Middlemore, with Jacob Anderegg and two other guides, ascended the Verte from the Argentière Glacier by a route on the N. side of the couloir of which our arête formed the S. bank.

But a veritable *tour de force* was made in 1901 by the two Gugliermina, with Brocherel of Courmayeur as a porter. They went straight up the terrific-looking couloir immediately under the Col de l'Aiguille Verte, and after hours of difficult ice-work spent the night on a rock at about 11,800 ft. They crossed the col at 11 A.M. next day, and reached Montanvert at 9 P.M. From our arête we could see the line of their ascent,

which this year seemed to lie in part directly beneath delicately suspended hanging glacier.

The only other attempt on this side of the mountain that I am aware of was the unsuccessful one by Lord Wentworth with Emile Rey and another guide in 1876 by way of the ridge from the Petite Aiguille Verte. Captain Farrar likewise made an attempt along this ridge in 1898, and reached the last tower immediately to the N. of the Pointe Carrée.

Two days later we were out again, and Frazer led my wife and myself by a most delectable and instructive route, and a safe one withal, through the main Argentière icefall to above Lognan.

We next visited Montanvert, and started off at 2.30 the following morning for an unknown destination—some mooted the Charmoz, others the Grépon.

The advantages of guideless climbing are many; the disadvantages, it may be argued, are considerable. Not the least inconsiderable is the fact that one reads descriptions of climbs, and learns all the trials and errors of one's forerunners. Yet on the mountain, instead of trusting to such mountaineering instinct as one may possess, there is a tendency to recall this book-gleaned knowledge and work to that.

I must accept the responsibility for leading the party astray on the Nantillons Glacier on this particular day, costing us our peak.

Mummery relates when his party was cutting up the Nantillons Glacier how another party, led by an Oberlander, was rapidly overtaking them on the rocks to the right, now known as the rognon. Burgener by herculean efforts reached the upper glacier simultaneously. Mummery then observes that the rocks are undoubtedly the proper route. Now having this incident fast in my memory, we made straight for the rocks, and started up what looked the most feasible route. Things went all right, but higher up the climbing became increasingly difficult, and there appeared no way of traversing away to easier rocks to the left. After a couple of hours of this unexpected kind of thing, we decided to descend and go up by the glacier. The man at the tail of the rope took the lead down, and led us away to the right and across a steep snow-slope to an extremely steep stretch of ice-plastered rock running abruptly down to the bergschrund. All this cost so much time that anything ambitious had to be postponed, and a return made to the Montanvert. On our way back we were able to render some aid to a Swiss who had met with an

accident below the Aiguille de l'M., and had to be carried back to the Montanvert. He had the grit to struggle down to dinner that evening and stand the whole English company champagne! It seems unheard of that no stretcher was available at the Montanvert.

More expeditions followed, some successful, others failures: the weather in July being exasperating at times for climbing.

On August 2 my wife, Frazer, and I went up to the Grands Mulets, and next morning at 12.15 started in glorious moonlight for the Mont Blanc. We found raquettes very useful when the snow got soft. On the Grand Plateau the weather looked doubtful, and at the Refuge Vallot a high wind had got up. We waited two hours, and meantime were joined by other parties, who soon decided it was too bad to proceed. We were the last to leave the hut, and the wind and driving snow on emerging made it hard to keep on one's feet, much less make the right direction. We all eventually reached the Grands Mulets, and later the Montanvert.

Our next successful attempt was the Grépon. Since our failure on the Nantillons rognon, we had been driven back by a blizzard from the Charmoz-Grépon Col. This time we climbed the Grands Charmoz first and then traversed the Grépon. We were greedy enough to hope for the Blaitière as well, but another party ahead of us just as we were descending from the Charmoz spoilt our chances.

The Grépon is without doubt one of the finest rock-climbs imaginable. Its sublime surroundings are possibly the secret of some of its charm. As regards difficulty, our expectations were not quite reached, possibly due to our wearing rubber shoes—that ideal footgear for most types of rock—but, on the other hand, we carried three axes, heavy rucksacks, and our boots, in view of our designs on the Blaitière. A pleasant way to the Charmoz-Grépon Col, avoiding the rather loose upper reaches of the couloir, was found by breaking through on to the Mer de Glace side by a steep chimney near the parting of the ways for the Charmoz and Grépon, and thence by easy ledges to the col. We saved exertion by traversing into the Mummery crack about half-way up, the top being reached comparatively fresh. This traverse needs delicate balance.

The delight of the whole climb seems to me concentrated about that wonderful *Abseil* from the lower summit to the gap near the 'vire aux bicyclettes.'

The next expedition was, as far as I can ascertain, a new route on the Petits Charmoz. It ran up the E. face from



the small Glacier de la Thendia to a gendarme on the ridge N. of the Col de l'Etala, and gave about 1000 ft. of fine slab-climbing of moderate difficulty on remarkably sound rock. Mr. W. H. Lewin, who has had the audacity to take up mountaineering, and more especially rock-climbing, at an age when many think it is time to give it up, led the lower part of this climb, starting from near the foot of the couloir running down from the Col de la Bûche on the E. The finish was made up the southern chimney to the summit of the Petits Charmoz. Mons. Émile Fontaine made a route hereabouts, but I think it lay a little farther to the right, or N. of ours.

I should like to refer to a contrivance which Mr. Lewin has designed to *protect the leader in exposed situations on rocks*. It consists of a small pulley through which the leader's rope is passed. It is hitched by him to any handy projection, the idea being that in case of his fall there is, so to speak, an elastic belay whereon it may be checked by a vigilant second. The pulley might be of use in the case of an accident, and its lightness (16 oz.) makes it well worth carrying. It is on sale at Beale's in Shaftesbury Avenue.

The weather round about August 4 became stormy, with lightning actually setting fire to the woods, while balls of fire on two successive nights were seen balancing on the points of the roof of the hotel. I shall never forget the sight of the colossal discharges off the top of the Dru.

Our next expedition from the Montanvert was the Grand Dru, admirably led by Frazer. A party benighted on the Petit Dru delayed our start until their return to the hut, and so we were unable to traverse both peaks. Frazer, who adapts his clothing to every degree of temperature, left his shirt on the Grand Dru: this was picked up some weeks later by Mr. Carr, who may like to take this opportunity of returning it to its owner!

My last expedition before leaving Argentière was with Mr. Carr and his guide, Ignace Zurbriggen, of Saas-Fée. From the Flegère we ascended the prominent little rock peak on the main ridge called Le Pouce. It reminded me in many respects of the 'Inaccessible Pinnacle' in Skye. Young Zurbriggen, who is at any rate a first-class rock climber, led us by a new and very difficult route up its N. side. Perhaps I may mention that Alasdair Odell, aged 2 (named after Sgurr Alasdair in Skye), made the ascent to the Col des Montets in a perambulator, but proceeded to foot it at a great rate

down the other side to Le Buet—possibly an indication of mountain fleetness to come!

Before closing this paper, I should like to mention that useful preliminary training for the party was had last Easter at a camp in Glen Nevis, and I venture to support Mr. Raeburn's opinion that the conditions of the snow and the actual climbing obtainable on Ben Nevis and Carn Dearg at Easter make it an invaluable home training-ground for guideless climbers.

### F. F. TUCKETT'S DIARIES AND LETTERS.<sup>1</sup>

TO the dwindling band of his contemporaries as well as to mountaineers of a younger generation it has been for years a matter of regret that no collection of F. F. Tuckett's Papers and Articles should have found a place in our English Alpine literature. A career remarkable and in some respects unique obviously deserved a permanent record: while Tuckett's friends felt that it would be a pity if no attempt was made to present to the public some sketch of a figure and a character so conspicuous in the early annals of the Alpine Club more complete than the notice published at the time of his death in this JOURNAL (vol. xxvii.). What we looked for in the present work was, therefore, a sympathetic portrait of the man together with a summary of his mountain wanderings that would emphasise their distinctive features and bring into prominence Tuckett's varied qualities as a pioneer.

Our hopes and expectations, we must regretfully confess, have been only imperfectly fulfilled. Tuckett's natural modesty and habitual avoidance of publicity concealed from all but his family and intimate acquaintances a character of singular charm and a mind at once exact and versatile, and stored with the most varied knowledge. His interests and sympathies were as wide as his travels, and these extended to every quarter of the globe.

His relative, who has contributed the concise biographical sketch which opens the volume, has been too discreet in a case where there was no call for discretion. We miss the personal details, the intimate human touches, which enable

<sup>1</sup> *A Pioneer in the Alps*. Alpine Diaries and Letters of F. F. Tuckett, 1856-1874. (Arnold, 21s. 1920.)

a reader to recall, or to realise, a personality. As a friendly reviewer has remarked elsewhere, Tuckett will be left in the minds of our successors a mythical figure rather than a vivid personality. We should have welcomed a more lengthy and life-like presentation of the manifold energies and intellectual versatility which were as remarkable features in Tuckett's character as his power of physical endurance. He had a memory stored with the most miscellaneous knowledge, which was always ready for use and at his friends' service. In their company his conversation never flagged or failed of interest, and it was supplemented for their benefit by an immense correspondence distinguished by a handwriting for many years exquisite and never obscure.

In their main task—that of presenting some satisfactory, if summary, record of Tuckett's brilliant exploits and explorations—the producers of this volume (we are left in some doubt as to the respective extent of their responsibility) have been on the whole successful. We may reasonably regret that the diaries, instead of being thrust between the letters and other matter, were not reserved for an appendix. Had this been done a more connected and attractive narrative would have resulted. In some cases Tuckett's revised form of his notes in his contributions to the 'New Expeditions' published in our pages might have furnished more suitable material than the original note-books. But we owe a real debt to Mr. Coolidge for the minute care with which he has annotated the Diaries and brought their nomenclature up to date, a troublesome business in which even his superhuman industry has not attained infallibility. For instance, when we read (p. 50) 'Mont Iseran was a grand object' we look in vain for an explanation of what peak represented on the occasion the legendary summit? Again, a reference to 'New Expeditions' in our pages (vol. ii. p. 151) proves that it was by the Dosegu, formerly called the Gavia Glacier, and not by the Forno, and by the S.W. and S. and not by the S.E. ridge, that the Punta di San Matteo was first climbed (p. 215).

In another direction we cannot but hold that Mr. Coolidge's zeal has carried him too far. Surely it is an editor's business to correct obvious slips of orthography in the MSS. before him rather than to add a censorious '*sic*' to every occasional lapse. When Tuckett writes of an inn in the Trentino as 'Italian,' to comment 'a slip for Austrian' seems pedantic. At the date Tuckett wrote, the Trentino was geographically and ethnologically Italian: it is now happily Italian also politically.

We have done with criticism and gladly turn to appreciate the contents of a volume which may be studied with profit by all who care to investigate the origins of modern mountaineering. The reader will find in these condensed and fragmentary narratives of Alpine tours a double source of interest. He may look at them both from the personal, and from the more general, point of view. He will first follow the footsteps of this Ulysses of the Alps, a pioneer indefatigable and insatiable in the quest of new impressions, keen in the pursuit of unfrequented valleys or of untrodden peaks, as happy among the chestnuts as on the glaciers. He will watch him ranging from the confines of Carinthia to the Alps of Dauphiné, leaping from group to group and conquering space by an apparent disregard for sleep. He will, for instance, note his rush from the Bedole Alp over the Adamello to Pontresina without a halt in forty hours, or that from the Baths of Masino over the Passo di Bondo to Splügen in less than thirty, or his ascent of the Disgrazia that ended the same evening at Varenna on the Lake of Como. These wild steeplechases, he will soon recognise, were not incompatible with observations which produced solid results both in orography and hypsometry. First in Dauphiné and later in the Ortler Group, Tuckett did much to aid in the correction of the very defective official surveys—French, Austrian, and Italian—of the period. In this work he was enormously aided by his talent for making singularly accurate pencil-drawings and panoramas, a few specimens (but not the best) of which are given in this volume. Travel among the Italo-Austrian Alps was not in those days free from perils by the local guardians of the frontiers. Tuckett was more than once arrested, but in such plights his sense of humour and command of languages invariably stood him in good stead. Such indeed was his conversational charm that on one occasion a devout Tyrolese Pfarrer, who had been Tuckett's host, expressed on parting his regret that, owing to the unfortunate creed of his guest, he could not look forward with any confidence to meeting him again as among the joys of heaven.

Tuckett's diaries throw light not only on his own doings but on the progress of the art of climbing from the date of its pioneers up to the present, when it needs for its exposition the two substantial volumes of many hundred pages added to our shelves by masters of the craft, Mr. G. W. Young and Mr. H. Raeburn. Our Early Fathers set out not with ice-axes, but alpenstocks; they did not specialise in clothes,

they wore veils, they carried clumsy knapsacks. The rucksack was an innovation introduced amongst English climbers by Tuckett, and the practical adoption of the sleeping-bag we owe mainly to him, even if Francis Galton claims the original idea.

But the greatest changes have been the result of the multiplication of mountain inns and huts. We find Tuckett and his friends constantly starting soon after midnight for their expeditions. When a long valley-walk preceded the climb this was needful in order to have a chance of finding the snow firm. On at least one occasion the party did better and set out after supper for the next day's mountain. They saw marvellous twilights and moonlights melting slowly into the full rose of dawn; they escaped lying packed in close and smoky dens with a miscellaneous rabble. These were their rewards for what was doubtless a severe effort. But their day's task did not leave them either the time or the full energy to grapple with the more intricate problems of rock gymnastics which have formed so large a part of the interest of younger generations. With most of these pioneers, Hinchliff, Whympers, Ball, Ormsby, pre-eminently with Tuckett, mountaineering was a branch of travel rather than a form of sport. In any complete estimate of Tuckett's career the fact, which this volume only incidentally refers to, must be constantly borne in mind that he climbed not only in the Alps but in the Pyrenees, Corsica, Italy, Algeria, Greece, and Bosnia, and that he three times went round the world.

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THE ALPINE CAREER OF THE EARL OF LOVELACE  
(LORD WENTWORTH).<sup>1</sup>

WE are grateful to Lady Lovelace for giving the public the opportunity of reading these letters, addressed mostly to her, by her husband. They may form an appropriate complement to Tuckett's Diaries, for both serve to bring back pleasant memories of the Tyrol of forty years ago before the tourist invasion. The mountaineer roaming eastward of the Ortler becomes conscious he has entered into a new country and among a different race. The German Swiss have

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<sup>1</sup> *Ralph Earl of Lovelace. A Memoir by Mary Countess of Lovelace.* (Christophers. 1920.)

of the Jumeaux de Valtournanche (1st ascent, 'A.J.' ix. 3-5), Matterhorn (traverse); 1879, Sorapiss, Monte Cristallo; 1880, Wildspitze, Wiesbachhorn, &c.; 1884, Zimbaspitze Fluchthorn, Wetterhorn, &c.; 1885, Weisskugel, &c.; 1886, Patteriol, Königsspitze, Ortler, &c.; 1887, Kuchenspitze, Dachstein, &c.; 1888, Zuckerhütl, Schrankogel, &c.; 1891, Diablerets, Grandes Charmoz, Aiguille Verte, Cima Tosa, Presanella, Carè Alto, Adamello, Cima di Brenta; 1894, Birkkarspitze, &c.; 1895, Nordend, Dom, Meije, Täschhorn, Ober Gabelhorn, Dent Blanche, &c.; 1896, Mönch, Laquinhorn, Fletschhorn, Trifthorn, &c.; 1897, Grande and Petite Dents de Morcles, Pierre Cabotz and Tête à Pierre Grept, Aiguilles Rouges d'Arolla, Dents des Bouquetins, Aiguille du Tacul, Grépon, Mominghorn, &c.; 1898, Cima and Campanile di Val di Roda, Cima della Madonna, Sass Maor, Pala di San Martino, Cimone della Pala, Winklerthurm, Fünffingerpitze, Delagothurm, Piz Popena, Kleine Zinne (N. face), &c.; 1899, Figlio della Rosetta, &c., Sass Maor (traverse N. to S.), Rosetta (W. face), Camp. di Castrozza, Delagothurm (2nd and 3rd times); 1901, Corno Schmitt, Torre Felicità, Rosetta (W. face—descent to Forcella Cusiglio), Dente della Pala, Pala di S. Martino (traverse), Delagothurm (4th time).

#### THE ENVIRONS OF THE POLSET HUT IN THE TARANTAISE.

THE excellent Polset hut, or rather Alpine inn, built in 1913, facilitates climbing in a rarely visited glacier group. The hut can be reached in about 3½ hours from Pralognan. The fact that it is about 5 hours from Modane gives this hut a claim to be the most accessible Alpine climbing centre for English people. (The Turin expresses from Paris stop at Modane.)

Provided the month chosen be not August, a mountaineer who is not too ambitious can spend ten days very pleasantly at the Polset hut. The existence of a virgin peak of some 11,000 ft. unconquered till 1913 and of another summit of about 10,000 ft. apparently still virgin is proof that exploration has not been so intensive here as elsewhere in the Alps.

The following are some of the expeditions which may be made from the hut and back to it:

The traverse of the three Polset peaks, the Pic du Bouchet, the Pointe Renod, and the point marked 3325 m., 14 hours. In either ascending or descending any of the Polset peaks the

immense détour up the Glacier Blanc (a route hallowed by local custom) should be avoided and the obviously direct way should be taken.

The traverse of the three Pecelet peaks, 7½ hours. It is best to include the Aiguille du Polset to save step-cutting.

Aiguille Doran by North ridge and Râteau d'Aussois, 13 hours.

Traverse of the Pointe de l'Echelle, 9 hours.

Western and Central Pointes de la Partie, 9 hours.

The last three expeditions appear to provide the most interesting climbing in the district. The gap in the N. ridge of the Doran can be reached direct by climbing the rock gully leading up to it (in about 15 minutes). The ascent from the gap to the peak takes another 45 minutes.

I believe that the complete traverse of the whole ridge connecting the Pointe de l'Echelle with the western Pointe de la Partie has never been done. Part of it I accomplished with Pierre Blanc in July 1920. After climbing the Echelle we followed the ridge southward for about 100 yards, and leaving it before it began to dip we descended by smooth slabs with sparse holds to the head of the couloir that plunged south from the gap between the Echelle and the eastern Pointe de la Partie, a rock spike well seen from the hut.

Caution was necessary in glissading down the couloir, as at the foot of it there was a bergschrund which had to be jumped. This route up the Pointe de l'Echelle was first taken by MM. Ern, Begey, and Grotanelli in 1912. From the top of the mountain to the hut took us 3 hours.

Yet another portion of this uncompleted traverse we accomplished a few days later when we ascended the highest or central Pointe de la Partie, reaching it from the top of the western peak.

Our hope that our ascent might be the first was not fulfilled, for we found in a diminutive cairn the names of Signori Ouaglia, Pizzotti Sitia, and Novarese who had preceded us in 1913. The peak has a slender and forbidding appearance, but the rocks are steep without being formidable, and if this ascent secures the popularity it deserves, the holds would soon become fairly sound.

A remaining portion of the ridge is as far as I know untouched. It extends from the summit of the central Pointe de la Partie to the gap between the eastern Pointe de la Partie and the Pointe de l'Echelle. It thus includes the eastern Pointe de la Partie (the rock spike previously mentioned), which is apparently a virgin peak.

C. F. MEADE.

## 'CLOCKING' A ZERMATT GLACIER.

BY A. C. MORRISON-BELL.

IT is always hard to realise that a glacier—that great solid mass of frozen stolidity—is continually and relentlessly on the move, but this of course is well known even to the casual tourist, and that this movement can be quite easily recognised by allowing the glacier to show off its paces. The extent of this movement at some familiar spot on one of the Zermatt glaciers interested me much when there in 1918, and I accordingly resolved to make a few (quite amateurish) observations, and to trust to coming back one day to check the result.

Accordingly, at the end of August of that year with Fridolin Kronig and Heinrich, his son, I set out one morning for the Bétemps hut, having decided that the Grenz Glacier would be a very convenient one to experiment on. After bolting a hasty lunch at the hut, we scrambled down the moraine on to the glacier. I had better here explain that what I intended to do was to erect a straight line of rock cairns at 100 mètres interval right across this glacier from the Monte Rosa side to the far side on the Breithorn Massif, to leave them for a year or two to the tender mercies of their icy host, and then to come back and see what had happened. As a matter of fact, this plan had to be somewhat modified, as it was a bigger job than we had bargained for, and eventually we only completed a line of 630 mètres in length, but this turned out to be quite long enough to provide some very interesting, and, I must confess, to me, startling data. Let me here at once say that I approached the question in complete ignorance of the nature and habits of glaciers, unfortunately never having read a book about them, an omission I shall certainly retrieve, and merely with the curiosity of the average tourist, so that these notes cannot claim to have the slightest scientific value. To continue the narrative of our operations on the glacier; a large flat boulder on an ice-table determined the starting point of the line 'A,' and a small cairn was speedily built on the centre of this boulder, in which a wooden post, about 5 feet long, was duly planted. Writing from memory, I should say this point 'A' was about 80 to 100 yards from the moraine.



Seven cairns marked A to G were built exactly 100 mètres apart, and between them, every 25 mètres, a large flat stone, with a little one on top, was placed, the distances being accurately measured and re-measured with the rope. The last thing was to check with a Zeiss glass that the posts, built in the cairns, were in exact alignment. The eighth, or farthest cairn 'H,' was erected only 30 mètres instead of 100 beyond 'G,' or 630 metres from the starting post, as this particular point on the glacier was the 'skyline' from the hut at the time, and any further cairn would not have been visible. The idea of carrying the line as originally intended right across the glacier had to be abandoned, as it would have taken at least two more days to complete it. Rocks had to be dragged (with a sledge belonging to the hut) hundreds of mètres across the rough sloping glacier, and though we worked till late at night, and all the next day, and Heinrich performed prodigious feats in rock-lifting, etc., we realised that cairn 'H' was the last we could possibly erect in the time at our disposal.

At the near end of the line, about 40 mètres N.N.W. of the hut, two 'sighting posts' to mark permanently the direction of the original 1918 line were set up. These were built firmly into large cairns which we hoped were solid enough to withstand all tinkering from stray visitors to the hut. As a last check before we left, we assured ourselves with the Zeiss that the two 'sighting posts' and all the eight posts were in exact alignment. It certainly never occurred to us that in less than forty-eight hours this hard-won alignment would have gone.

In August, 1920, I was again at Zermatt, and naturally made some inquiries about the cairns. Nobody that I asked had seen them, and they had apparently disappeared, snowed under, I supposed, by the immense fall of snow that must take place up there. The object of the posts was at least to show their tips, I hoped, out of the covering layers of snow. However, when I got to the hut I was much cheered by a note in the visitors' book written by an American gentleman, who, being stormbound for two days at the hut, and noticing my note of 1918, had spent his time roaming about on the glacier, and had actually found four of the eight original cairns, and three of the posts. There was not much time to explore that afternoon, but I determined to make a day of it later on and to begin the search for the cairns by working backwards from 'G' and 'H' towards the hut, as these

two could be located without any difficulty. This plan of working backwards towards the hut succeeded well. A few days later, with a friend from Zermatt, the Rev. P. Lancaster, and with a large party of enthusiastic Americans who joined us at his invitation—the party included a surveyor with instruments of precision—we made a bee-line up the glacier for cairn 'H' and from there, working backwards towards the hut, the search began. Not only was every cairn located and rebuilt where necessary, not only was every post except two discovered and replaced, but to my great surprise every one of these intervening flat stones was identified, each with its little stone still on its back, just as it had been placed two years ago. Each successive find was announced by a young American on ahead with a loud shout, and our party of about twenty straggling across the glacier gave the impression of a tremendous game of hunt-the-thimble. On getting off the glacier and up to the Bétemps hut we found that the two sighting posts had gone; they had evidently been too much for the fidgety fingers of the tourists who visit the hut in such numbers. The posts had been worked out of their sockets in the cairns and had disappeared, though the cairns themselves were bulky enough to have withstood these attentions. However, I had provided for this contretemps by bringing up two fresh posts which had been specially prepared with strong cross-pieces nailed on to the bottom, and these were duly built in to much reinforced cairns, averaging, I suppose, about a ton apiece. It is fairly certain that no direct pull will get them out.

And now came the proof of the experiment. It was very easy, marching out over the glacier, directed on a straight line by an observer at the 'sighting posts' and accurately counting the paces to get to the exact spot, or certainly to within a very few feet of it, where cairn 'H' was originally built in 1918. It was then only necessary, of course, to pace down from this spot to its new position to find out how far this part of the glacier had travelled. And how much was it? On this alignment no less than 331 yards. This figure tallied very closely with some calculations the American surveyor made with the help of his instruments and the Siegfried map. In other words, cairn 'H' had moved on an average nearly one yard in every two days. Measurements to other cairns showed that 'H' was the outside of the circle, and moving the fastest. 'C' had moved 226 yards from its 1918 spot, and 'A,' the right-hand post of the line, about 120.

Two points occur to me. What happens to all the snow

that must fall up there? The basic idea of sticking posts in the cairns had been that perhaps their tips might just sufficiently peer out of the snow to indicate where the cairns lay concealed below. So far from this being the case, every flat stone was actually there just as exposed as it was when placed there two years ago, though surely many feet of snow must have fallen in the meantime. Would they be ever visible in winter? Surely not, for some of the snow must lie till well into late spring or later. But by August, apparently, the glacier surface becomes the same as it was two years previously, without even a quarter-inch added to it as far as I could see, judging by these stones. Supposing you left a handkerchief on the glacier, and it was not blown away by the wind, how many years would it be before it got covered up? The cairns will travel down till they end by toppling over into one of those rivulets that seem, according to the Siegfried map, to be permanently there. One of these rivulets was very big and broad last year, a regular brook, and it had to be crossed by planks. This is the first obstacle, as things are at present, to be encountered. Poor 'H' is heading towards it at a fearful rate and will certainly get swallowed up in another ten years or so, always provided that no fresh stream opens up on the glacier higher up. 'C' and the others are pushing along more leisurely and will certainly survive impetuous 'H,' while 'A' may quite possibly see us all out.

But it would be interesting, now that it seems that these cairns do not intend to play hide-and-seek with us but can always be picked up by a little searching, to keep an eye on them a few years longer, and may I appeal, therefore, to anyone who happens to find himself stormbound at the Bétemps hut, with time hanging heavily on his hands, to just take a cast round over the glacier and see how these old gentlemen are getting on? It may be necessary to build up a cairn a bit, and, if it is still there or thereabouts, to replace the stick. To find out at any time the distance the cairns have travelled it will only be necessary to pace down to them from a point on the original line, and the direction of the latter is shown by the 'sighting posts' near the Bétemps hut. As an additional check, the original 1918 line bears 270° magnetic N. from the sighting-post cairns. Even if the sighting posts themselves have again been removed—and as I said above I have tried to make this operation a little more difficult—the cairns into which they were embedded will always be there to mark the spot, so that all necessary data are available. To any who are blessed with plenty of energy, may I

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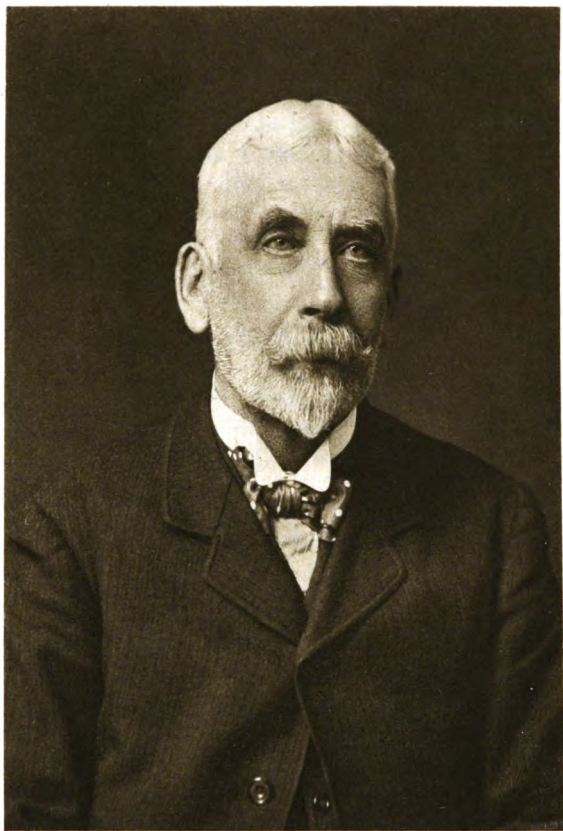
suggest that they might add some more material to some of the cairns so that they become visible to the naked eye from the Bétemps hut, or to a telescope from the Gorner Grat? To scientists and to all those long familiar with glacial phenomena, I fear all this will appear very childish and vain, and an apology perhaps is really due to them; to us others who look at a glacier merely with the amateur's eye of interested curiosity, the sight of these helpless cairns being majestically carried along to their doom in the icy grip of destiny raises a spectacle of weird fascination, which it is not exactly easy to describe, but which I shall put forward to readers of the ALPINE JOURNAL as my excuse for having penned these incomplete notes.

### THE CHASM, BUCHAILLE ETIVE, GLENCOE.

THE following notes were made during an ascent last Easter with my wife and Mr. R. F. Stobart. Left Kingshouse Inn 4.30 A.M., April 13, 1920.

Pitches.	Remarks.	Elevation (by Aneroid).
1	Entered chasm 6.15 A.M., 3 chockstones above one another. Wet. Easy.	1150 ft.
2	30 ft. Very wet. Climbed on right of chockstone. Moderately difficult.	1240 „
3	Big cave pitches turned on right wall. Steep, loose, and heathery. Moderately difficult.	1300 „
4		1380 „
5	8.45 A.M. 60 ft. of treacherous, slabby rock (red). Moderately difficult. Stretch of snow to next pitch. Huge schrund. Branch gully running up on left.	1420 „
6	9.15. Wet. Easy. Snow.	1520 „
7	9.50. 100 ft. of rotten rock, climbed by chimney on right. Moderately difficult. Breakfast 10.20. Steep snow to next pitch. Branch gullies leading out right and left.	1600 „
8	100 ft. Climbed on right of waterfall. Very bad landing. Severe.	1800 „
9	Small cave pitch, turned on right wall (looking up). Easy. Stretch of snow to next pitch.	
10	Combined tactics necessary to get on to smooth right wall. Severe. Stretch of snow. Branch gully on right to gap below pinnacle on 'Four Days' Ridge.'	2100 „





*Photo Harrison. Kidderminster.*

*Edward A. Broome.*



Pitches.	Remarks.	Elevation (by Aneroid).
11	'Devil's Cauldron.' Climbed by slabs and chimney on right wall (looking up). 120 ft. Severe.	2520 ft.
12)	Snow-masked. 5.20 P.M.	2900 „
13)		(top of climb).

Back at Kingshouse 8.30 P.M.

The elevations given were taken at the foot of the respective pitches. Right and left indicate looking up.

We were unaware this climb had been completed before, until I found later that Mr. Harold Raeburn and Mr. W. N. Ling had made the ascent throughout on May 5, 1906, the lower portion being under deep snow, after Mr. Raeburn had on a previous occasion climbed the upper half and the lower half had been climbed some years before by another party. This is not given in 'British Mountain Climbs,' published in 1909.

N. E. ODELL.

## IN MEMORIAM.

EDWARD ALFRED BROOME.

1845-1920.

IN Edward Alfred Broome, who died at Zermatt on Sunday, August 29 of last year, the Club loses a very active and devoted member.

He was born on July 31, 1845, of an old Worcestershire family closely connected with the carpet-weaving industry in Kidderminster and neighbourhood. He was trained under his uncles, Sir F. Crossley and Mr. John Brinton, and then started the Castle Mills in Stourport, building up a large business, of which he remained the head to his death.

An ardent musician, he was a well-known figure at the 'Three Choir' and other festivals. He possessed a good baritone voice and was a fine performer on the organ—indeed, one of his occupations just before his fatal seizure was to teach, with many forceful exhortations, his granddaughter, Ursula Corning, to play the organ at the English Church at Zermatt.

He was a good man to hounds in his day, and at his death the father of the Worcestershire Hunt.

He was a good citizen, a lieutenant in his county Yeomanry from 1886 to 1895; served as High Sheriff in 1902 and was a D.L. and J.P. for Worcestershire.

His business ability was recognised by his appointment as shareholders' representative on the audit of the G.W.R., in which he was a large shareholder.

It is, however, with his mountaineering career that we have mainly to deal.

He was, as indeed he remained almost to the end, a prodigious walker, and he had acquired in the hunting-field that quick decision, that calm appraisal of difficulty and danger which stand one in good stead on a great mountaineering expedition. He possessed, moreover, great reach and strength in the hands and arms. He had in earlier years scrambled about the Scottish and Welsh peaks as then known to climbers.

Thus, although he was forty-one when he started mountaineering, he was not nearly so handicapped as one would be led to expect, while his constant physical fitness and an iron constitution account for the tireless energy with which he continued to make great expeditions up to well beyond seventy years of age.

He was able, during a climbing career of nearly thirty years, to carry through a series of expeditions that has been rarely equalled. He was mainly a centrist, oscillating between Chamonix and Zermatt, and had made, many of them several times, all the principal expeditions in those districts.

In 1891 he visited the Engadine, in 1894 Dauphiné. In 1897, however, he fell a victim to the glamour of the Dolomites, and in the course of seven visits acquired, with such leaders as Toni Dimai, Dibona, Verzi, Pompanin, a knowledge of the most difficult Dolomite climbs, probably as was possessed by no other English climber.

His list of expeditions, for which I am indebted to his daughters, Mrs. Corning and Miss Phyllis Broome and to Professor Corning (one or more of whom were his constant companions on many of his Alpine journeys<sup>1</sup>), and a rough list kept by himself, of which he evidently was, and had good reason to be, proud, is so instructive that it is well worth recording here. I must not forget my debt to my friend Mumm's *dossier*.

1886. Breithorn, Théodule, Col du Géant, Mont Blanc.

1888. Aig. du Midi, Cols de Talèfre and du Géant, Monte Rosa.

1889. This year is memorable for his engaging Joseph Marie Biner of St. Nicolas, who remained his leading guide every year until 1900, even in the Engadine, Dauphiné, and the Dolomites. It is to Biner's enterprise and sound knowledge, added to the determination, daring, and endurance of his employer, that much of the success of the magnificent series of expeditions carried out in those years must be ascribed.

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<sup>1</sup> Mr. H. W. Holder climbed with him in 1889, 1891, and 1894. The association was broken by Mr. Holder's two campaigns in the Caucasus.

The late P. A. L. Pryor was his companion in 1897 and 1898. In 1900 his future son-in-law, H. K. Corning, was his comrade for the first of many seasons.



JEAN BURNET

E. A. BROOME

JOSEF LAUBER

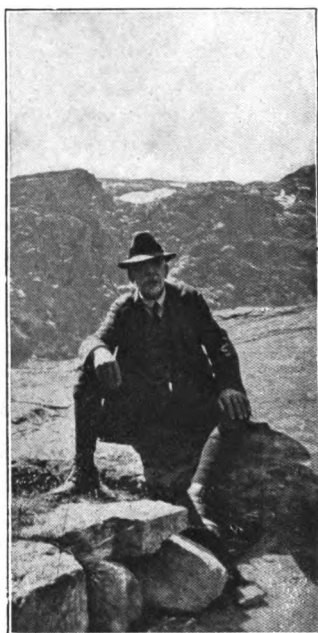
ZERMATT, 1888



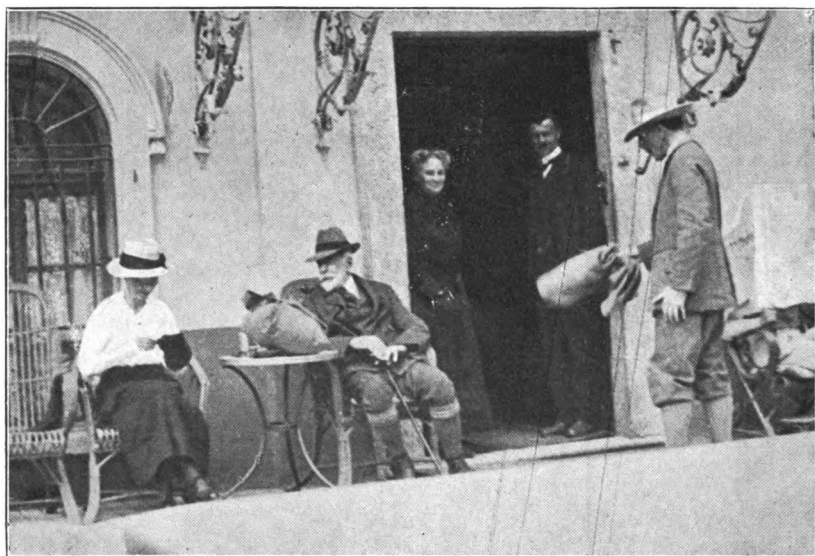
1 2 3 4 5

1915

- 1 A. POLLINGER
- 2 H. K. CORNING
- 3 MISS BROOME
- 4 E. A. BROOME
- 5 J. POLLINGER



1915



*Photo Canon Kidd*

THE LAST DAYS, AUG. 22, 1920

Biner, a year older than his employer, survived him two months. He was already known as a bold climber. In 1878 he led Mr. P. W. Thomas in an attack on the Mittellegi arête, when they got as far as the great gendarme. In 1885 he and Alexander Burgener were the guides of Herr v. Kuffner on the *descent* of the same ridge. Burgener knew what sort of man Biner was before he chose him for such an adventure.

Biner very soon justified his engagement with Broome. With P. J. Truffer as second they made inside a month the following expeditions :

Triftjoch, New and Old Weissthorn, Dom, Rothhorn, Rimpfischhorn, Weisshorn, Dent Blanche, Matterhorn (traverse Breuil to Zermatt, with A. Ritz in place of Truffer).

‘Biner never attempted anything that we did not succeed in doing, notwithstanding most uncertain weather and the difficult state of some of the peaks.’

1890. Charmoz, Grand Dru, Géant, Tacul, and some passes ; Obergabelhorn, Täschhorn from the Mischabeljoch, Felikjoch.

1891. Piz Roseg, Morteratsch, Disgrazia, Monte di Scerscen—Piz Bernina, traverse with descent by the Bernina Scharte, the first time the two peaks were done in the day and probably the second traverse in this direction, an expedition of nineteen hours. The local guide was Joh. Gross. I remember Broome telling me that when they got into the Scharte which, through Dr. Güssfeldt's somewhat coloured description of the first ascent, had a great but quite undeserved reputation, Biner, who was last, untied himself and climbed the short pitch to the Pizzo Bianco with the greatest ease.

1892. Cols du Géant and des Hirondelles, Grandes Jorasses, Mont Dolent, Charmoz, Grépon (possibly with other guides), and an attempt on the Aig. Blanche de Peuteret from a gîte on the Fresnay-Brogia arête, 14 hours from Courmayeur. The intention was to repeat Sir Seymour King's ascent of 1885. Emile Rey led Broome as he had done King. Broome told me that soon after they started they saw that, while they could reach the summit, they would be compelled to bivouac a second night, for which they were not prepared, having sent the porters down, so they turned back.

1893. Mont Blanc (traverse from Cabane Sella), Grivola (Val Savaranche to Cogne), Grand Paradis, Aig. Verte, Petit Dru, Aig. d'Argentière, Périades, Aig. Noire de Peuteret, and the first passage of the Col de l'Eboulement ('A.J.' xvi. 514, and xvii. 65). Auguste Cupelin, then possibly the best all-round Chamonix guide, took part in the Chamonix ascents, while Emile Rey was the leader on the Aig. Noire.\* It had in those days a great reputation, and was

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\* I noted the names on the summit :

1879—Del Carretto ; 1889—W. Muir ; 1890—K. Richardson, F. Gonella ; 1893—Foley, Wilson Morse and Wicks, Güssfeldt, Broome, Farrar. The first ascent was made by Lord Wentworth with Rey and J. B. Bich in 1877.

a sort of preserve of Rey's, who had led every expedition but one, even the redoubtable English trio mentioned in the footnote, then at the zenith of their great career, deigning to take him along. There was one place where he used to throw a rope. Biner watched the manœuvre, and, untying himself, climbed the place in great style. Emile had rather a way of not giving away his pet ascents. I think the tariff was 90 or 100 francs, and, as I note from my book, that Daniel Maquignaz, who had never seen the mountain before, led me, without a check, from the foot of the rocks to the summit in a few minutes under four hours—it was a good milch cow.

1894. Pic Coolidge, Meije (traverse), Ecrins (traverse), Gde. Ruine (traverse), Gde. Aiguille. (Mr. Holder and Alois Pollinger II took part). An attempt was made on the Col du Mont Dolent, but the icefall at that date (August 31) defeated them. Broome also slept out for the Brenva arête, but the weather prevented a start next morning. This was the first of *two* starts for the Brenva, both defeated by weather.

1895. Egginer, Laquinhorn (traverse), Südlenz-Nadel-Ulrichshorn, Weisshorn, Dom (traverse from Fee to Randa), Weisshorn (1st complete ascent from the Schallijoch by the Schalligrat, 'A.J.' xviii. 145).

1896. Col de Rochefort (2nd recorded passage), Aig. du Moine.

1897. Croda da Lago, Cristallo, Kl. and Gr. Zinne, traverses of Popena, Sorapiss, and Croda Rossa; Fünffingersp., Rosengarten, Langkofel, Grohmansp. (traverse), Cimone (traverse), Cima d. Madonna (traverse), Canali (traverse).

1898. Sass Maor, Pala di S. Martino, Col Dolent, Col des Gdes. Jorasses, Grépon (traverse), 2nd attempt on Brenva route, Mont Blanc (from Dôme hut), Aig. du Géant, Aig. Rouges d'Arolla (traverse), Za, Rimpfischhorn, Täschhorn (Teufelsgrat).

1899. Croda da Lago, Drei Schuster, Kl. Zinne (N. face), Popena (S. arête), Tofana (via Inglese, new S.E. descent), Ortler (Marltgrat) and, with Miss Sylvia Broome, now Mrs. Corning, and Biner, Croda, Kl. Zinne, Cinque Torri, Ortler (Hinter Grat).

1900. Petit Dru, Charmoz, Triftjoch, Rothhorn (traverse from Zinal).

1901. Kl. Zinne (traverse), Antelao (S. face), Croda Rossa (E. face), Pelmo.

Alois Pollinger II now became leading guide, and rendered to the last brilliant services. In the Dolomites, local guides only were employed.

1902. Trifhorn, Monte Rosa (from Lysjoch), Col de Moming and Rothhorn, Lyskamm (Lys- to Felikjoch), Mischabeljoch, Rothhorn to Mountet, Gabelhorn to Zermatt, Riffelhorn (1. up Glacier down Matterhorn couloir; 2. reverse).

1903. Charmoz (N. to S.), Requin, Blaitière (S. and Central peaks), Riffelhorn (up Krachenloch down Glacier), Trifhorn-Pic de Mountet-Rothhorn, Schallhorn (from Schallijoch) and Momingsp., Wellenkuppe-Gabelhorn ('A.J.' xxii. 255) 'The Rothhorn Ridge.'

1904. Col des Nantillons, Mont Blanc (Midi route), Aig. de Rochefort (asc. from S. side)—Mont Mallet, Matterhorn (Zmütt arête), Gabelhorn (S. face—W. arête), Nordend (N.W. arête)—Dufourspitze (N. face—S. face).

1905. Charmoz (S. to N.), Moine (N. to S.), Grépon, Triftjoch and Trifthorn.

1906. Traverse Delago-Stabeler-Winklerthürme, Tscheinersp. (W. face—1st ascent), Rosengarten (S.E. face), Fünffingersp. (1. Schmittkamin and 2. Daumen Scharte), Teufelswandspitze (1st ascent 'extremely difficult'), Marmolata (S. Wand), Diamantidithurm, Cristallo (S. Grat).

1907. Tour Ronde, Cols de Rochefort et du Géant, Dent Blanche (Ferpècle arête—Wandfluh), Monte Rosa (5 peaks).

1908. Laurinswand, Vajoletthürme (N. group), Rothwand, Marmolata (S. face) and others.

1909. Breithorn (N. face), Unter to Ober-Gabelhorn, Rimpfischhorn (from Adler), Trifthorn, Riffelhorn (up Krachen down Glacier).

1910. Becco di Mezzodi (N.W. face), Sorapiss (Müller—Grohmann Wege), Gr. Zinne (Ostwand), Nuvolau, Col Rosa, etc.

1911. Leiterspitzte, Cols de Valpelline, des Bouquetins and d'Hérens, Nordend (from Macugnaga), Täschhorn.

1912. Rosetta (S.W. face), Cimone, C. della Madonna (Phillimore-Winkler routes), Pala di San Martino, Camp. and Cima di Val de Roda, Marmolata (S. face—his 3rd ascent), Rothwand, Winkler-Stabeler-Delagothürme.

1913. Allalinhorn, Aig. de la Brenva, Aig. Noire de Peuteret (his 2nd ascent).

1915. Alphubel (Rothengrat), Monte Rosa.

1919. Buet, Tour Noir, Charmoz (traverse 14 hrs.).

Such a consistent list of great expeditions would be hard to beat. The expeditions which appealed to him most were his ascent of the Weisshorn by the Schalligrat in 1895 and of the Obergabelhorn by the long arête from the Unter Gabelhorn in 1909. Of all his Dolomite climbs the Marmolata Südwand held his heart. He had done it three times.

The critical mountaineer will note with interest other great ascents, such as the traverse of the Dom from Fee to Randa in 1895, the Col Dolent in 1898, and the feat, unrivalled in the history of mountaineering, of traversing in his 67th year, roped to a single young guide, the Nordend from Macugnaga, 'the great white throne of the Revelation,' as he loved to call the East face! He had been warned a few days previously that he ought to consider his climbing days over. Yet in 1912 he broke out again, and as late as 1919, when in his 75th year, traversed the Charmoz.

Surely such a climbing career stands out by itself beyond compare.

His contributions to the Journal were numerous, commencing with Vol. xvi. and ending with a paper on 'Zermatt in War Time' in Vol. xxx. Many of the papers were read before the Club. They were full of delight in the climbs which a good voice and delivery

graphically conveyed to his listeners. He was also a frequent speaker at the meetings. One never quite knew what he would say when he got well launched, and this, of course, ensured him an attentive audience. One was anyway certain of a more or less appropriate Biblical quotation and generally of a racy tale.

He was elected to the Club in 1889, to the Committee in 1900, and became Vice-President in 1912. In the spring of last year a dinner was given to him by some thirty of his friends in the Club, and the speeches were some indication of the warm affection in which he was held.

He was heart and soul in the Club. We were all his friends. Just as one remembers and misses the firm handshake of C. E. Mathews—the genial greeting of Charles Pilkington—the innate candour of a Woolley, the presence of many another good man, so will the place of Edward Broome not be filled at our meetings and in our hearts.

I forget when I met him—I always seem to have known him, but comparison of diaries show that it was at Courmayeur, August 14 or 15, 1898. I was a rabid ex-centrist and so our orbits had not previously touched. I remember looking with some interest at the lean, active Englishman, of whom I had read and heard much. From that day onward our friendship had that supreme quality that, however long we were apart, we started afresh exactly where we had left off. Besides the great tie of the Club I felt his innate loyalty.

No stauncher friend lived, there could be no more harmonious or joyous gatherings than those at which he loved, so often, to preside. He was not without his prejudices and was quick to take offence, but even quicker to meet any attempt at a rapprochement. I remember one notable instance of a generosity of spirit of which not many men would be capable.

At the houseparties at Areley where Mrs. Broome, a great raconteuse, saw that our spirits never flagged, at Pen-y-Gwryd where each Easter we made up a joyous crowd, the words he himself once wrote could well apply: 'Men are boys writ large. What overgrown school-boys most of us are,' and he was the gayest and most boyish of us all.

He started on his last journey to his beloved Zermatt at the end of July, full of the old spirit. Twenty-one days before the end there is one last, almost pathetic, entry: 'To the ridge of the Riffelhorn—alone.' We can picture the veteran, young as ever in spirit, looking round that mighty panorama, surely unrivalled in all the world, at the ridges and faces and summits he knew so well. And so he returned to the Zermatt of his first climbing days of thirty-five years ago, to his almost home, the Monte Rosa, to die.

His own physician, Dr. O. K. Williamson, and Professor Corning, aided by the able local doctor, saw to everything, while Madame Imfeld, who now reigns at the Monte Rosa as she did in the old days at the Zermatterhof, was kindness itself. We see him in Canon Kidd's picture a week before his death, gay of spirit as ever, chatting to Mrs. Pasteur. An exquisitely characteristic tale is told of him.



Almost on the last day he was found emptying his physic-bottle into the slop-pail: 'Confound all their concoctions—I am sick of this everlasting cackle of drugs and bed. Still, O. K. is such a good chap—mustn't hurt his feelings.' He died a true mountain death, without ever growing old in heart and mind, wrapped up in his beloved mountains to the last, soothed as ever by the presence and the never-failing care of his loved ones.

As the day waned he was once again making a great traverse. 'To within an hour of the end he thought we were climbing and was urging us all to "come on—come on." May heaven give at least some others of us as beautiful and peaceful an ending in a place we love as well, and may we be all as sincerely mourned!'

He was buried beside the English Church, where he had always wished to be, at which in the early days he had acted for several seasons as organist and choirmaster, Canon Kidd of St. Albans taking the service at Miss Broome's request.

We are glad he is there. We will not fail each time to stand a moment by the grave. We know he knows we'll not forget.

And so passes a man, warm in heart, generous in spirit—a right valiant mountaineer.

J. P. F.

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F. W. BOURDILLON.

1852–1921.

FRANCIS W. BOURDILLON had been a member of the Club since 1900, but he first began to climb seriously in 1893, when he was already forty-one years old. From that time onwards he spent nearly every summer in Switzerland from early in July to September. There have been few more earnest and devoted lovers of the Alps than he, for to a man of his receptive, sympathetic, and poetic temperament the majesty and solitude of the mountains had an irresistible attraction.

But he liked to enjoy the mountains in his own way, and that way led to much solitary climbing and climbing without guides. In his paper 'Another Way of (Mountain) Love,' read before the Club in May 1906, he tells in his charming and cultivated prose how it was that he came to shun the conventional summer mountain holiday spent at centres and in big hotels. This led him to try the experiment of hiring a chalet for the summer and staying there for two or three months with his family and some friends. He first did this at Champéry in 1897 after three previous seasons in the Alps, during two of which he climbed with E. J. Garwood, who afterwards proposed him for the Club. After two summers at Champéry he experimented on chalets at Engelberg and Grindelwald. The first he found relaxing and full of Germans of such ample proportions that he—though a thin man—found difficulty in passing them on the mountain paths. The second was too full

of excursionists, and the big mountains made him rather dissatisfied with the smaller climbs which appealed more to him as being suitable to a man who preferred to be alone or with friends and without guides. But he climbed the Schreckhorn when he was in Grindelwald in 1902, and the Jungfrau, Wetterhorn, and Finsteraarhorn in 1905.

Afterwards he spent many summers at Champéry, which he found to be a most convenient centre for the kind of climbing he enjoyed, and where it was easy to find a suitable chalet and there were no difficulties about provisioning the household, and servants could be easily obtained.

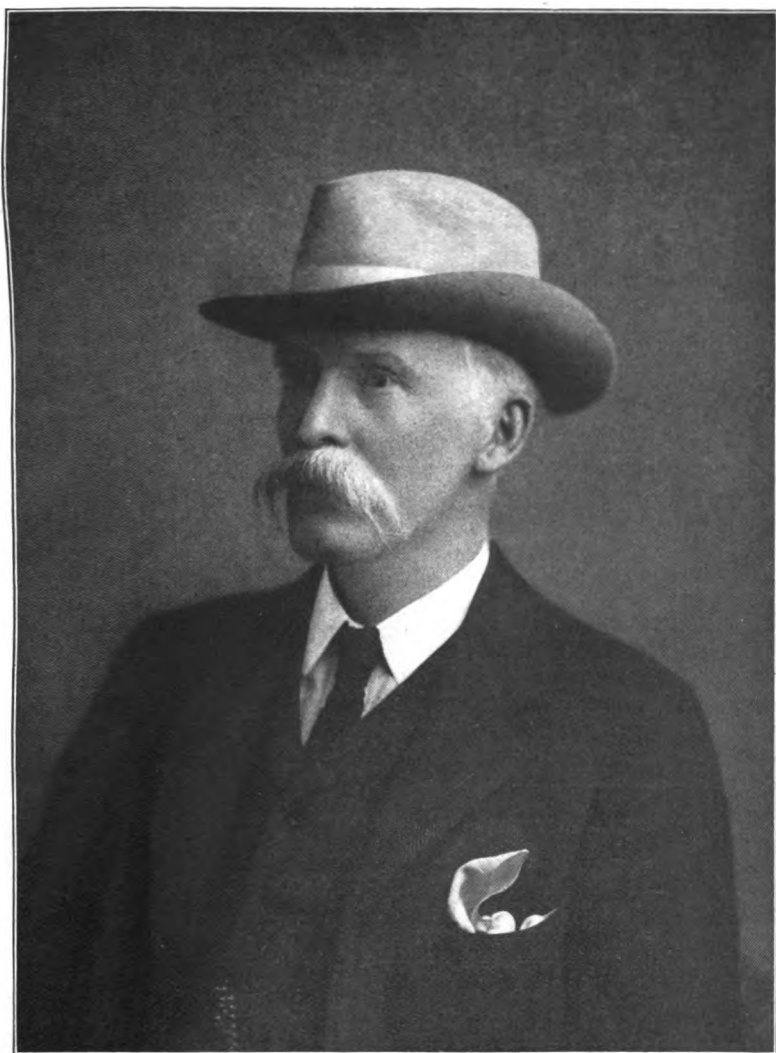
But he visited also the Engadine, the Tarentaise, Maderanerthal, the Zermatt district, and in 1908 spent some time at Arolla and in the Val de Bagnes. On a good many of these expeditions among the bigger mountains he was accompanied by his friend Professor Garwood.

He detested the vulgarization of the mountains as evidenced by the numerous mountain railways built in Switzerland in recent years. This made him an active member of the Heimatschutz and induced him to read another paper to the Club in April 1913—'Without are Dogs,' which inveighed against the multiplication of unnecessary mountain railways and revived the sentiments which he had expressed so well in his 'Ode in Defence of the Matterhorn against the Proposed Railway to the Summit' in 1910. Few papers which have been read to our Club have expressed more vividly or in more graceful language the feeling that the real mountain-lover has for the vast solitudes of the Alps.

Although during the last fifteen years when we have been neighbours I have seen a good deal of Bourdillon, as our mutual love of mountains formed a strong bond of common interest, I only climbed once with him and that was at the Eagle's Nest in 1913. He came over to us from Champéry and I took him up the Pointe de Salles by a very steep and slippery face route. That one walk was enough to show me that he knew quite as much about climbing our limestone mountains as I did myself, and that cautions against slipping on steep grass slopes were quite unnecessary. He was quick, had an excellent balance, and certainly a better head on steep places than I had myself. I shall always remember his keen enjoyment of the beauties of the mountain and the splendid view of Mont Blanc from the top.

For he was a real mountain-lover, and the grandeur and solitude of the Alps brought out to the full his poetic and cultivated appreciation of their charm. He was always a delightful companion and friend both in the mountains and at home.

But Bourdillon had other interests besides the Alps, though the same qualities which made him love mountains no doubt were responsible for his keen literary sense and his graceful versification. Beginning in 1878 with 'The Night has a Thousand Eyes,' he published also 'Through the Gateway,' 'A Lost God,' 'Sursum Corda,' 'Preludes and Romances,' 'Christmas Roses,' and other volumes of verse. But he was best known as a literary man for



F. W. BOURDILLON



his work on the old French Romance 'Aucassin et Nicolette.' He published in 1887 a text and translation in prose and verse of this work, and later revised it, the English translation being frequently reprinted, and in 1896 he published a photographic reproduction of the original manuscript. He also brought out for the Bibliographical Society in 1906 a very complete monograph on the early editions of the 'Roman de la Rose.' He had a very fine library, and among his books were many of the rarest editions of these romances, and nothing gave him more pleasure than to show these to his friends.

He was devoted to the county of Sussex, and particularly the beautiful neighbourhood of Midhurst, where he lived almost all his life. Like so many other members of the Club, he was extremely fond of long country walks and bicycle rides during the months that he could not visit his still more favourite mountains.

He was the son of a former rector of Woolbeding, the Rev. Francis Bourdillon, and after going to Haileybury and Oxford he for three years was resident tutor to the sons of the Prince and Princess Christian. He then for some years coached for the Universities at Eastbourne. But devoted as he was to the Midhurst country, he took an early opportunity of building himself a house within a mile of Woolbeding, and there he lived until his death last January.

W. A. W.

THE news of the death of F. W. Bourdillon was received with great sorrow by the guides and inhabitants of the village of Champéry. Since 1897 he had been a constant visitor, and year after year his arrival has been looked for; those seasons when he did not come never seemed quite complete.

His first expedition here was in 1897, and continued through the intervening years till 1919. He was chiefly interested in finding new routes up the lesser-known peaks in the district, and made the first ascent of the Haute Cime of the Dent du Midi by the N. face on August 20, 1901, with Edouard Defago as guide. They proposed to make the ascent of the Doigt de Champéry, but after climbing several hours found their way barred by iced gullies and bad rock, so they went straight to the top of the Haute Cime.

Bourdillon writes: 'We soon forsook the usual Dent du Midi route and climbed straight ahead to the left, till we got to the side of a narrow but steep gully filled with ice. We crept up the side of it, ever up and up, on bad rocks, and at last crossed it and came to a small col joining a rocky knob to the main Haute Cime massif.' From this point they went straight up the rocks to the top. Time from the grass slopes of the Seleyre ridge, 6 hours.

He also made the second ascent of the Forteresse by the N. face—guide, Edouard Defago, August 2, 1904. He writes: 'We left the chalet of Anthémoz at 5.45 A.M., climbed snow to the foot of the couloir leading up between the Cathédrale and Forteresse.

Then a long rock climb with several chimneys.' Time from Anthémoz to the summit, 5 hours 25 minutes.

During twenty years I had the great pleasure of being his companion on many of his climbs. He was an ardent lover of all mountains, and of tireless energy.

Here, where the old instinct of true hospitality to the tourist and true affection and gratitude to the old client holds good, his death seems like a real severing of one of those strong ties which bound England and the Alpine Club to the real Switzerland of the days before the cheap tours and mountain railways.

CHAMPÉRY, March 2, 1921.

JOSEPH COOKE SMITH.

### WILLIAM ASBURY GREENE.

1848-1920.

WILLIAM ASBURY GREENE was educated at St. Paul's School, lived at Richmond and practised as a solicitor in Bedford Row.

He had rheumatic fever in a severe form as a young man, but recovered to climb with success from 1872 to 1891, with the exception of a few years given to rowing tours at home and abroad.

I first met him in 1873 at Arolla, when he and the late Mr. W. B. Rickman were trying some of the best climbs in that and the adjoining valleys. They finished the season, with the guides Joseph Gillioz of the Val de Bagnes and Jean Vuignier of Evolena, by climbing the Dent Blanche from Abricola. None of the party knew the mountain, and no account was published. An account by Mr. Rickman is in existence, but it was not published. In 1884, with F. C. Mills, he climbed the Grand Cornier by a new route ('A.J.' xii. 122). In course of years he managed to climb all the Zermatt giants and most of the Grindelwald group, and visited the Wildstrubel, Tödi, and some of the minor groups of Switzerland. Further afield, in 1877, he and I visited Tirol in its primitive days, climbing the Gross Glockner, Cristallo, and Ortler among others. In 1888, he visited Dauphiné with Mills, and wrote an account ('A.J.' xiv. 372). In 1891, with Mr. C. M. Stuart, he visited the Pyrenees, climbing the Balaitous and Mont Perdu. These expeditions were practically the end of his climbing proper, as he became subject to mountain sickness when over 10,000 feet, and was ordered by the late Mr. C. T. Dent to give up climbing.

He rowed in the Twickenham R.C. Eight for some years, during the club's best days. In the middle 'seventies he and others sent a boat to the upper waters of the Danube and rowed down to Linz. Thence by rail across the watershed and down the rapid Moldau and the Elbe to Hamburg, then probably a new expedition.

He had bad health for the last ten years, following an accident

F. WHELAN



W. A. GREENE  
1888







to his knee which left him lame for some time and prevented him from getting adequate exercise.

His pen-and-ink sketches of the mountains were much appreciated by his friends. Later on he became interested in the Camera Club.

His good nature, patience, and fairness made him an ideal travelling companion, and his friendship during the rest of the year was a privilege that will not be forgotten.

T. A. R.

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### FITZGERALD WHELAN.

1872-1921.

FITZGERALD WHELAN, affectionately known to his friends as 'Gerry,' was for many years Bursar of St. Columba's College, co. Dublin, where he was greatly beloved by both boys and masters. Owing to his residence in Ireland, and the fact that he was not able to go abroad very frequently, he was probably not known to many members of the Club, which he joined in 1902. He did some fine things in the Alps. With his brother (Rev. P. S. Whelan) and H. J. Synnott he traversed the Drus from the Montanvert, returning thither in time for tea. From Zermatt in another year he climbed the three chief peaks of the Nadelgrat in one day. I met him first at Zermatt in 1904, when he had just been over the Matterhorn (returning the same day by the Breuiljoch) which was in a difficult state after much fresh snow. We soon became friends, and I had the great pleasure of his company during a three weeks' campaign in Dauphiné in 1908. In spite of spells of bad weather, we did some of the chief climbs, though we were robbed of the Meije by a storm which made it almost an achievement to get from the Promontoire over the Brèche to La Grave. We had with us that accomplished guide—one of nature's gentlemen—the late Alphonse Simond. It was delightful to see how Whelan and he—neither as it happened speaking the other's language—got on together. There was a likeness in character and physical power and a community of interest and achievement that seemed to link them in a very striking way. Whelan himself was a skilful, fast, and daring climber, withal entirely reliable. I remember that on one bad day at La Bérarde, several parties were trying the face of one of the big boulders near the hotel. Whelan showed us three times how to do it—the third time was almost too much even for his strength—but no one could imitate him. He had remarkably strong hands, in spite of the loss in a shooting accident of one finger of the right hand, and he seemed to decide at once how to take a difficult passage. He had been a fine Rugger forward, and was a great cyclist who could do 100 miles in a day without turning a hair—and that on Irish roads. He had a fine baritone voice, was an admirable raconteur of Irish stories, and was steeped in Irish

humour and brogue. Always unselfish and cheerful, and nearly always merry, he was the jolliest of companions, and his straightforward, loyal, and generous character made his friendship a delight to all who had the privilege of sharing it.

E. H. STEVENS.

### L'ABBÉ RÉMY FOUILLAND.

1853-1920.

THOSE of us whose foreign Alpine correspondence is considerable will feel quite a personal loss in the death of this distinguished member of the Section Lyonnaise of the C.A.F.

He had been for forty years a member of the C.A.F., and during thirty years the Librarian of the Lyons section. He was Editor of their *Revue Alpine* for some years, and it was in that capacity that we corresponded. I remember vividly the charming tone of his letters. We seemed to become, indeed, quite friends. He was a veritable apostle of the High Mountain among the youth whom it was his business to instruct, and was a worthy type of the cultured French priest which has shown in the late war that the cassock of the ecclesiastic so often covers the heart of a brave man.

J. P. F.

### AUGUSTIN GENTINETTA.

1860-1920.

THE announcement last year of the death of Augustin Gentinetta at Zermatt was received with a feeling of very sincere regret by his many friends of all nationalities. Not one of the Valais guides was more highly esteemed than he was, and with good reason.

One of a numerous family, he was born in 1860 at Glis, where his ancestors came to live in the middle of the sixteenth century. He was educated at the village school, and as a young boy his holidays were spent in looking after cattle on the surrounding alps. His schooling over, he was taught joinery and became in time a first-rate carpenter. As a mere boy he always looked with longing at the mountains, and whenever he had the opportunity he would spend the day scrambling wherever he could. In 1876, when he was a little over sixteen, his first opportunity of a real ascent occurred, and he accompanied the Rev. J. T. Bramston as porter up the Breithorn and down to Breuil; and the next day he, acting as third guide, traversed the Matterhorn from Breuil to Zermatt with another party under the leadership of J. A. Carrel. In the following year he had plenty of engagements and gradually got to know most of the Valais peaks. By 1879 he had gained a reputation as a really good climber and was engaged by A. F. Mummery for the season as second guide to Alexander Burgener. The party brought off a number

of fine climbs culminating in the first ascent of the Matterhorn by the Zmutt ridge, on which Gentinetta led most of the way.

His abilities as a guide now became universally recognised, and he was much sought after by some of the best mountaineers of the day. His 'Book' contains a testimonial in 1882, signed 'J. P. Farrar,' after they had climbed the Matterhorn and the Dent Blanche, that he was 'a first-rate climber and one of the foremost of the rising guides of Zermatt.' Every year his reputation grew, and his 'Book' shows that he climbed with F. M. Balfour, W. A. P. Burnell, W. E. Utterson Kelso, Joseph Seiler, A. G. and E. H. Topham, F. M. Davies, H. Heldman, J. A. Luttman Johnson, E. Whympfer, von Waldhausen, Lord Lovelace, D. Diamantidi, Dr. and Mrs. Thomson, H. W. Holder, G. E. Maude, H. Correvon, A. Milnes Marshall and many others, and that he visited the Oberland, Chamonix, Dauphiné, and Tirol.

In 1886-1889 he carried out a brilliant series of climbs with Ellis Carr and F. M. Davies, and during six consecutive years he and the late Franz Biner ascended with J. A. Luttman Johnson all the great peaks in the Zermatt, Zinal, Saas, Lötschen, Binn, Aletsch, Aar and Grimsel districts.

It was in 1889 that the present writer had the supreme good fortune to be taken on his first expedition—a crossing of the New Weissthor with a party led by Gentinetta. That happy day proved to be the commencement of a mutual friendship and regard which lasted for upwards of thirty-one years and has only been terminated by death. From that year onwards (except for one year) Gentinetta and Joseph Biner have acted as his guides, and together they have come all along the mountains from the Ortler right through Tirol, Switzerland, Chamonix, and Italy, as far as the Monte Viso, and altogether they must have spent together some 900 days of pure enjoyment without a single hitch or cross word.

No man can ever have had a better guide and companion than Gentinetta. He was a very fine and quick rock-climber, and equally good on ice and snow, while the speed with which he could cut perfectly safe steps was remarkable. He was wonderful in finding his way on a mountain which he had never seen before. Instinctively he saw the right way to the top, and from there the way down the other side. Without any fuss he took every care of his 'Herr,' never hurried him unnecessarily, and always let him do his own climbing unless help was really required. No day was too long, no weight too heavy for him. Wherever his wanderings took him, even in Tirol where foreign guides are not always welcomed, his good temper and cheerfulness gained him friends at once.

In the many hundreds of ascents he made he had only one accident. In 1900 after a successful ascent of the Matterhorn from the Swiss hut, his party were caught, in the couloir formerly used, by a heavy fall of stones started by a party above. The other guide, Alphonse Furrer, was killed on the spot, and all three were carried down several hundred feet on to the glacier. Gentinetta, though himself badly

hurt, managed to extract his 'Herr' from the snow in which he was lying insensible and to carry him up the steep ice to a place of safety on the rocks some 400 feet above.

Gentinetta was very happy in his home life. He was devoted to his wife and numerous family, of which four sons and one daughter survive. Three of the sons have obtained their certificates as guides, but only one now acts in that capacity. The eldest, after a first-rate education at Brigue and Innsbruck, has become a priest and is now teaching at the College at Sion. All are doing well and are worthy sons of their father.

For some two or three years before 1914 Gentinetta began to be troubled with asthma, which gradually caused ever-increasing heart trouble. The writer naturally did not see him after the outbreak of the War until 1919, and then found him able to go only for moderate walks. When they parted in September of that year both felt that they would never meet again, and so it was. During the winter of 1919-20 the heart trouble grew worse and the end came on March 26, 1920.

Augustin Gentinetta is buried in the churchyard at Zermatt, and there lies in peace one of the best guides the Valais has ever produced—a true and faithful friend of thirty years.

C. H. R. W.

## JOSEPH GENTINETTA.

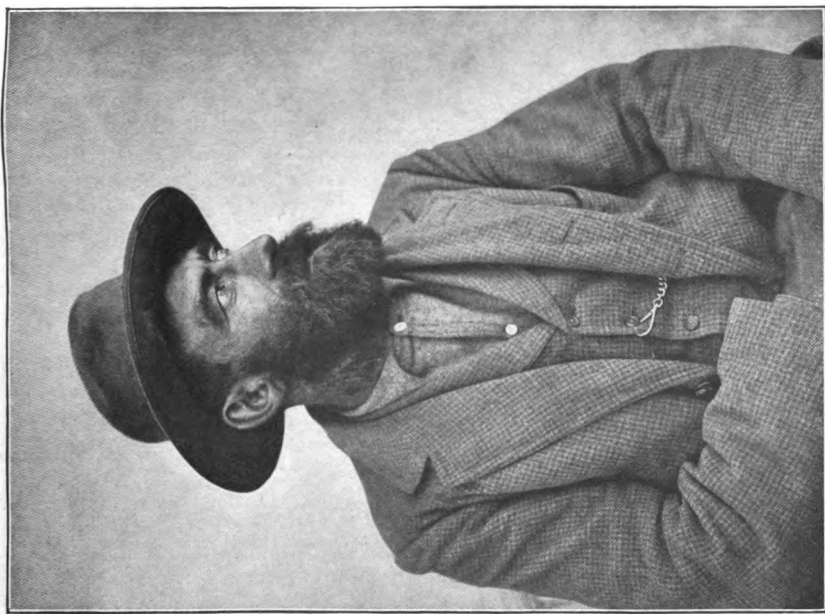
1864-1919.

In their day, had I to indicate two guides who could be counted on in any emergency, I would not have hesitated to include the two brothers who appear side by side in those pages of this JOURNAL which we dedicate to the memory of our own dead and of men who have served us well.

Augustin I had climbed with when he was a handsome young fellow of twenty-two, lithe and active as a cat, the down just sprouting on his face. Joseph I first knew in 1892—that year the brothers were my wife's guides on the Matterhorn. Caught near the summit by a furious thunderstorm, it was only the sang-froid of the brothers, added to the faith in them of the steadfast traveller, that saved a very dangerous situation.

I frequently met the brothers in subsequent years, and had for their characters and for their powers a sincere regard. The third brother, Enil, was likewise a good guide, but increasing weight has latterly handicapped him in his profession. He was the best weather prophet I ever knew.

Joseph was born in 1864 at Glis, above Brigue. All three brothers were master-joiners—good workmen—as was their father before them, and they were in intelligence and education quite different from the ordinary peasant. He was a well-made and very powerful man, while his frank, open look comes out well in the



*Photo H. Speyer*

JOSEPH GENTINETTA

1901



AUGUSTIN GENTINETTA



ANTOINE MAOIGNAZ  
1869-1920



J. M. BINER  
(MR. BROOME'S GUIDE).

portrait. His book now before me is mainly a series of testimonials by some of our own best-known men. It opens in 1887 with an ascent of the Matterhorn; then a party of boys with two masters from the Prangins school ascend the Cima di Jazzi, recalling to me a similar expedition fifteen years earlier, when I was one of the boys. Mr. Loppé then crosses the Schwarzthor and Lorria with Joseph, singlehanded, makes a splendid series: Nordend, Gabelhorn, Rothhorn, Matterhorn, Rimpfischhorn, Dent d'Hérens, Weisshorn, Lyskamm—fair for a guide of twenty-three!

By now his name was established, and, aided by the sound reputation of his elder brother, Augustin, he speedily became and remained for the rest of his working life the much-sought-after guide of some of our hardest men.

Looking through his book, I find the names of O. J. Koecher (several journeys); W. N. Tribe; A. Milnes-Marshall (killed later on Scawfell), who made six great journeys with him (1888–1893) covering the Zermatt district, Oberland, including Bietschhorn ('He is a most able guide and an extremely pleasant companion'), Chamonix (1893), including the two Dru, the Charnoz, Mont Blanc from the Sella hut (a slight variation near the summit), traverse of Cervin. In this campaign T. L. Kesteven, my companion in Dauphiné in 1894, a good mountaineer unfortunately long lost to the pursuit, took part.

Other names are Charles H. Peacocke; Harold B. Dixon; Herbert R. Arbuthnot (1893, 1894, 1896, 1901); W. Gilbert Edwards; J. G. Douglas Kerr (1895 and 1897); the party Gerald FitzGerald, M. Holzmann, W. E. Davidson (1894), including traverse of Cervin. 'In all these expeditions he proved himself a first-rate guide, and in addition he is a good-tempered, quiet, and most agreeable companion.' Godfrey W. H. Ellis, including Gabelhorn, Rothhorn (traverse), and Lyskamm; F. A. Satow; H. K. Corning (four years, 1897–1900), including the principal Zermatt peaks; Bietschhorn and Mont Blanc (Dôme route); von Waldhausen (1897–8–9–1900–1–2–3), including Chamonix Aiguilles, Combin, Oberland, Pontresina, Zermatt, Dauphiné (many great expeditions in each district); W. P. R. Ellis (1902–3); F. Wyatt-Smith (1904 and 1911), including Pontresina and Oberland; W. H. Ellis; H. v. Ficker; T. K. Rose; Ernst Pühn; v. Hahn; A. E. W. Mason; H. D. Waugh; E. G. Oliver and S. L. Courtauld (1908), including Wellenkuppe-Gabelhorn to Arbenjoch; R. A. Frazer; C. M. Thompson; W. P. Ker.

Such a series of names is testimony enough to Joseph's powers. He was a very fine and determined rock-climber, and a good all-round man. Early in 1919 he, who had never had a day's illness, was attacked by some abdominal trouble. An operation came too late, and he died in the November.

Many of us will not soon forget this sturdy and valiant mountaineer, and his frank greeting will be missed when we return once more to the old haunts.

J. P. F.

## ANTOINE MAQUIGNAZ.

1869-1920.

ANTOINE MAQUIGNAZ died on December 26 from hæmorrhage, due to his accidentally shooting himself in the arm while out hunting. A younger brother by thirteen years of the famous Daniel, he got his early training under him, and possessed all that seemingly intuitive knowledge of mountain conditions for which the Val Tournanche men are renowned. Before he was twenty he had ascended the Cervin, Dent d'Hérens, Weisshorn, Rothhorn, Gabelhorn, Dent Blanche, Lyskamm, Täschhorn, Dom, all the peaks of Monte Rosa, and many other summits. Among his employers are such distinguished names as Dr. Kugy (for many seasons), Sir F. De Filippi, A. E. Martelli, F. Gonella, Guido Rey (ascent of the Dent d'Hérens by the very difficult Mont Tabel Glacier, getting back to Breuil *the same day*, and the first ascent of the Punta Gnifetti by the E. ridge, besides many other expeditions during several years), Vaccarone, Agostino Ferrari, and others.

We find the name of our own member, Mr. Evan Mackenzie, constantly recur in his 'Livret de Guide.' Thus they did in 1891 the Colle delle Loccie, the Dent d'Hérens by the Mont Tabel; in 1892 (with Daniel) the first passage of the difficult arête from the Punta des Cors to the Dent d'Hérens, the traverse of the Cervin, and other ascents. Mr. Mackenzie, a very competent judge, calls him 'un grimpeur de toute première force.' In 1893, 1895, and 1896 they were again together, and made besides other expeditions the first ascents of the Punta Maquignaz and Punta Carrel.

He served Mr. Whympster in 1892 and 1893.

Among other names of our people in his book are: Alfred Holmes, Eric Greenwood, the two red stockings of the old days, J. J. and W. A. Brigg, W. Brunskill, W. Barrow, Howard Priestman, J. M. A. Thomson (Cervin from Breuil and back same way. 'He appeared to me a very capable man'), Victor de Cessole (traverse of Cervin), F. Baker-Gabb (traverse of Cervin), G. L. Stewart, C. V. Rawlence, E. C. Oppenheim, E. J. Mazzucchi, and N. S. Finzi.

It is unnecessary to recapitulate all their expeditions, for the *class* of them is well known. They cover the great ascents of the Western Alps.

Miss Ina Brodigan made with him in 1907 the ascent of the Dent d'Hérens by the difficult Mont Tabel Glacier.

But it was as a guide *d'outremer* that he will be best remembered.

Four pages with the signature 'Luigi di Savoia' testify to his valiant services in the expedition to Mt. St. Elias.

But I cannot forbear from quoting in full a testimony from a great mountaineer who does not suffer fools gladly.

'Antoine was my leading guide throughout a journey of seven months' duration in the Andes of S. America. We ascended Illimani



(22,500 ft.), Sorata (24,000 ft. almost to the summit), Aconcagua (23,000 ft.). . . Maquignaz proved himself to be an excellent guide in a country new to him, and a good traveller. He kept his temper under adversity, adapted himself to unwonted situations, lived contentedly on poor food, and was only sorry for himself when there was no work for him to do. He maintained well the good character he bears. He made many friends and no enemies amongst the people we met. As a guide he is first rate, and I have no doubt that his future will bring him fame and prosperity as one of the best guides in the Alps.'

(Signed) MARTIN CONWAY,  
February 12, 1899.

He was one of the best men in a valley which has produced great mountaineers, and he worthily upheld the family name.

J. P. FARRAR.

## THE ALPINE CLUB LIBRARY.

The following books, etc., have been added to the Library :—

### *Club Publications.*

- Appalachian Mountain Club.** Bulletin, vol. xiii. Oct. 1919–Sept. 1920.  
7 × 5: pp. 168.
- C.A.I.** Relazione dell' opera dalla Direzione del C.A.I. dal giorno della sua costituzione al giorno d'oggi. 1864  
8½ × 5½: pp. 9.
- C.A.I.** Sez. ligure, sottosez. "Alpi Marittime." Programma. 1921  
6 × 3½: pp. 6.
- C. A. I. Milano.** La Sezione di Milano e la guerra. 1920  
9½ × 6½: pp. 173: portraits.
- C.A.I.** Sez. ossolana. L'Alpe ossolana. Bollettino periodico. Anno 1, Giugno–Agosto 1920  
N. 1–3.  
13½ × 9½: pp. 16.
- C.A.I. Torino.** Comunicato mensile ai soci. Anno 1, N. 1. Aprile 1920  
10 × 7: pp. 8.
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 $8 \times 4\frac{1}{2}$ : pp. 312. London, Bentley, 1848
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- Forrester, J. Campbell.** A Four Weeks' Tramp through the Himalayas. A guide to the Findari Glaciers.  
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## VARIOUS EXPEDITIONS IN 1920.

*Pennines.*

BREITHORN (4171 m. = 13,685 ft.), BY N. FACE AND E. ARÊTE. Mr. E. G. Oliver, with Adolf and Alfred Aufdenblatten, August 9, 1920. Left Gandegg hut at 2.15, arrived on the Triftje arête at 4.05 after passing some of the largest crevasses I have ever seen (included a halt of half an hour).—We followed the arête, first rocks and then ice, much step-cutting; and passing a bergschrund reached the small Triftje plateau below the final peak (6.20). Left 6.50, crossed bergschrund (difficult), and fortunately finding a way through the séracs climbed straight up snow-slopes to summit ridge, struck slightly to left (E.) of summit (8.50).

Leaving at 9.00 passed three or four snow-peaks—good snow. Heavy cornices on Zermatt side. Cut steps in ice round S. side of large snow gendarme carrying heavy cornice on Zermatt side. Thence up rocks and snow to P. 4148 (10.30), whence over fairly difficult rocks, with several gendarmes, to deepest gap between the two central peaks (11.50). Left at 12.10, cut steps in ice up to and over the E. central peak (no height marked on Swiss map), descended to Col below P. 4089 (13.20), which was climbed without difficulty over a large gendarme (13.45).

As the Schwarze Glacier looked crevassed and it was getting late, we returned to the Col (13.55), instead of descending to Schwarztor, descended to the glacier, crossed the Col de Breithorn and reached Gandegg at 16.30.

The arête is an interesting expedition and offers plenty of variety. It is not very difficult, but requires care in places. Our conditions were probably favourable.

The N. face is a beautiful climb, with splendid ice scenery. It is not dangerous if taken in the early morning.

*Mont Blanc Range.*

MONT BLANC (4810 m. = 15,782 ft.), BY THE GLACIER DU MONT BLANC and the TRAVERSE OF THE AIGUILLE DE BIONNASSAY (4066 m. = 13,341 ft.). Mr. E. G. Oliver, with Adolf and Alfred Aufdenblatten, August 30, 1920.—We spent the previous night in the Quintino Sella hut, magnificently situated above the Glacier du Mont Blanc. Only one other party was inscribed since 1913, and the blankets were wet through.

We had intended to start at 2.30, but a strong wind was blowing and doubtful weather delayed us until 5 A.M. The way leads at first up the glacier—much step-cutting in spite of crampons. Reached the snow-saddle to the E. of P. 3873 of the Rocher du



Mont Blanc, whence we descended into the snowy basin forming the upper plateau of the Glacier du Mont Blanc (7.15).

After several unsuccessful attempts we eventually crossed the bergschrund a good deal to the left of the ordinary route, whence we traversed back over snow-slopes to reach the well-marked arête of rocks and snow which descends from La Tournette (P. 4671), near the summit of Mont Blanc (8.45). We followed, more or less, this arête to the summit ridge at La Tournette (12.20) and the top of Mont Blanc (12.45).

Time from hut, 7 hours 45 minutes, including about 1-hour halts. We lost about an hour over the bergschrund.

This route is easy but rather tiring. The scenery is very fine.

As it was very cold we left immediately, reached the Vallot hut at 13.20 and the Col de Bionnassay at 14.45, a halt of half an hour *en route*.

The narrow E. arête of the Aiguille de Bionnassay carried some large cornices overhanging the N. side. Steps in ice had to be cut practically all the way to the top. The strong N. wind compelled us to proceed *à cheval* for a considerable distance. Top, 17.15.

After a short halt we descended the S. arête, composed at first of ice and then rocks, and going hard reached the Col de Miage at 20.00.

We were fortunate in having a full moon, but even so it was difficult to find the way through the séracs above the level part of the Glacier de Miage, and this part of the climb was about the most difficult of the day. We unroped at 22.30, and reached Courmayeur at 2 A.M. Time, 21 hours, including halts (not more than 2 hours).

The expedition is arduous, and the conditions were against us. The day was too cold for Mont Blanc. The E. arête of the Aiguille de Bionnassay was all ice and really difficult, and while Adolf is the fastest step-cutter I have ever seen, it took 2½ hours' hard work. We all had good crampons.

## ALPINE NOTES.

'BALL'S ALPINE GUIDE.' THE WESTERN ALPS.—Copies of the new edition (1898) of this work can be obtained from all booksellers, or from Edward Stanford, Limited, 12 Long Acre, W.C. 2. Price 13s. net, post free 13s. 4d. net.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—A new edition (1907) of this portion of 'The Alpine Guide,' by the late John Ball, F.R.S., President of the Alpine Club, reconstructed and revised on behalf of the Alpine Club under the general editorship of A. V. Valentine-Richards, Fellow of Christ's College, Cambridge, can be

obtained from all booksellers, or from Edward Stanford, Limited, 12 Long Acre, W.C. 2. It includes those portions of Switzerland to the N. of the Rhône and Rhine Valleys. Price 7s. 6d. net, post free 7s. 10d. net.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART II.—A new edition (1911) of this portion of 'The Alpine Guide,' by the late John Ball, F.R.S., President of the Alpine Club, reconstructed and revised on behalf of the Alpine Club under the general editorship of the Rev. George Broke, can be obtained from all booksellers, or from Edward Stanford, Limited, 12 Long Acre, W.C. 2. It includes those Alpine portions of Switzerland, Italy, and Austria which lie S. and E. of the Rhône and Rhine, S. of the Arlberg, and W. of the Adige. Price 8s. 6d. net, post free 8s. 10d. net.

MAP OF THE VALSESIA.—Some copies of the Map issued with the ALPINE JOURNAL, No. 209, and of the plates opposite pages 108 and 128 in No. 208, are available and can be obtained from the Assistant Secretary, Alpine Club, 23 Savile Row, W. Price for the set (the Map mounted on cloth), 3s.

GUIDE DES ALPES VALAISANNES.—Vol. III., du Col du Théodule au Simplon, has just been published. The price of the volume (to members of the S.A.C.) is 5fr. 15c. Post free from the Quæstor of the respective section. The book is so well furnished with route-marked illustrations that a very scanty knowledge of French suffices for its use.

The volume from the Col Ferret to the Théodule is in the press.

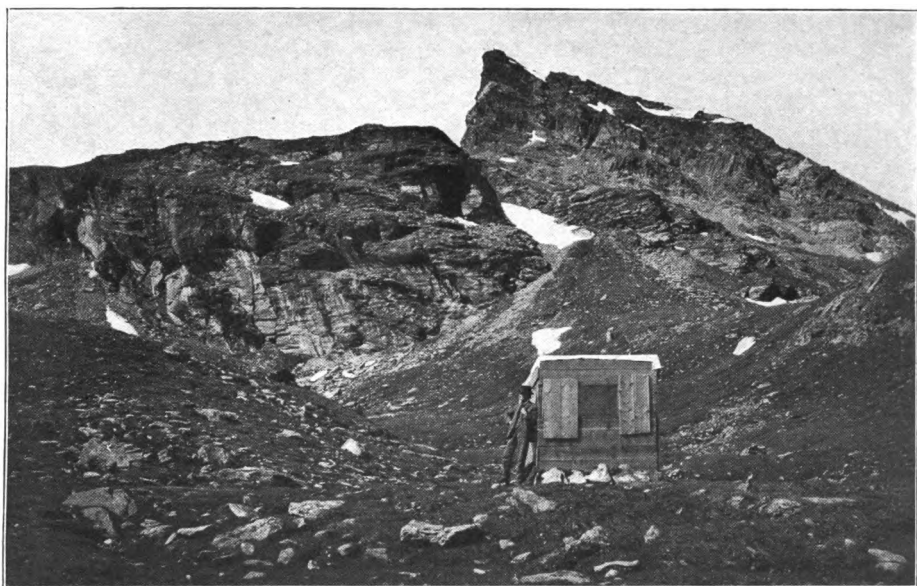
Volume IV., du Simplon à la Furka, par Marcel Kurz, has just appeared.

#### THE ALPINE CLUB OBITUARY.—

	Date of Election.
Hawkshaw, J. C. . . . .	1860
Ramsay, G. G. . . . .	1876
Greene, W. A. . . . .	1880
Abney, W. de Wiveleslie . . . . .	1887
Bourdillon, F. W. . . . .	1900
Turner, G. F. . . . .	1901
Whelan, F. . . . .	1902
Farrer, R. J. . . . .	1917

A LEAGUE OF MOUNTAINEERING CLUBS. In the *Climbers' Club Journal*, Mr. Geoffrey Young writes :—

'I would make a very earnest appeal to all members of British Clubs to recognise that the renaissance of our Associations gives to our generation a possibly unique opportunity. Some of our Clubs have local and climbing advantages, others have civic and



*Photo H. Speyer]*

THE LATE ALFRED WILLIAMS  
AT HIS HUT NEAR THE HÖRNL



*Photo H. Fox]*

THE KASTENSTEIN GËTE



LLOYD—POLLINGER



LYSKAMM

THOMSON—KLUCKER  
NERUDA—KLUCKER (to left)



ROUTES: MEADE—BLANC

social advantages. All have a legitimate pride in their own flourishing independence. But it is our responsibility to think now not only of our exclusive amenities or of our local interests, but of the future of mountain climbing in this country as the finest, sanest tradition which we possess, and which it is our privilege to hand on to the next, very different, generation. Our organisations might, and should, combine all the advantages of fellowship, of facilities, of vigorous combined action, and of authoritative expression, which at present we either lack or enjoy apart in uneven distribution. We may well aim at making our Clubs separate meshes in a single wide net to catch all coming climbers and sweep them comfortably about, among and up our hills; and, far more, meshes in a net to draw a larger and still unconverted number within the circle of attraction of the health and delight that mountains may bring into their lives.

‘We need no reminder that, below our Club designations and above our wholesome rivalries, we are all fellow-mountaineers united by a bond that gives us an almost affectionate responsibility not only for the members of any small community to which we may belong, but for all other climbers or potential climbers, however distant from us in space or time.’

The question will doubtless receive the careful consideration of the various Clubs.

**CHIPS OF THE OLD BLOCK.**—On September 14 Mr. Claude Macdonald made his fifth ascent of the Wetterhorn accompanied by his daughter Sheila, aged 18, and his son Hamish, aged 16.

**THE KASTENSTEIN GITE.**—The present picture was taken by Mr. Harry Fox, a young cousin of our Harry Fox who was lost with W. F. Donkin in the Caucasus. It was taken from the Strahl-egg side. It is situated a couple of hundred feet above the Schwarzegg hut, and was the previous regular sleeping-place.

**THE OLD FAULBERG CAVE.**—It would be interesting to have a photograph of this. I was never able to find it, although I found the remains of the wooden hut which succeeded it.—F.

**LYSKAMM, W. SUMMIT.**—Ascents of this summit were made by:

1. Mrs. Roberts-Thomson with Klucker and Zippert, July 19, 1902. ‘A.J.’ xxi. 266.

2. Mr. C. F. Meade with Pierre and Justin Blanc, August 21, 1908. ‘A.J.’ xxv. 85–86.

3. Mr. R. W. Lloyd with Joseph Pollinger and Franz Imboden, July 31, 1914. ‘A.J.’ xxviii. 405.

Some doubt has arisen as to the line of the three expeditions. The three pictures marked respectively by Klucker, Mr. Meade, and Pollinger show that, in the essential portions, the routes are practically identical.

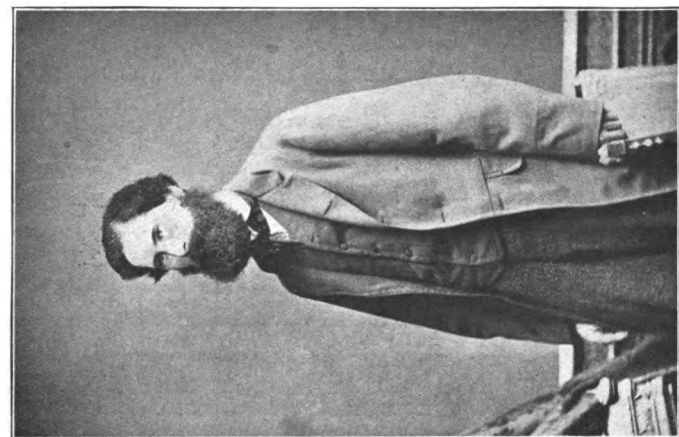
**HENRI PASSET (1845-1919).**—This well-known guide of Gavarnie died on December 26. He will be remembered as the guide and companion of Charles Packe, Count Henry Russell, and others, and was for many years the leading guide in the Pyrenees. He had also ascended the Meije, the Cervin, and the Dru.

**EARDLEY J. BLACKWELL.**—In Mr. Coolidge's 'The Alps in Nature and History,' one finds the following :—

'Here let us commemorate briefly a bold young English climber, Eardley J. Blackwell, whose memory now survives only in a few scattered notices, but whose exploits were very remarkable for the date. In 1850 he made the first traveller's passage of the New Weissthor near Zermatt, and traversed the Col du Géant. In 1852 he crossed, in an unusually short time, the Tschingel Pass and the Strahlegg. In June 1854 he climbed the Hasli-Jungfrau (Wetterhörner) from the Rosenlauri side (being the first Englishman to reach the summit). A few days later he tried it from the Grindelwald side, though failing, owing to a violent storm, while the iron flag he planted just below the final corniche was found three months later by Mr. (later Sir Alfred) Wills. On all these climbs he was accompanied by Christian Bleuer, one of the early Grindelwald guides, who does not, however, seem to have been with him when he ascended Mont Blanc early in August 1854. Mr. Heathman, who met him in that year at Chamonix, tells us that he made the last-named ascent in two hours less than any preceding party. He thus describes him : "The fact is, there was no guide the match for him. He was six feet three, rather bony, but carrying no weight ; he had the eye of a hawk and the legs of a chamois, combined with the utmost enterprise, perseverance, and courage. He made light of the ascent of Mont Blanc. As to its difficulties, he said they by no means equalled his previous feats, though the time required was longer. He was perfectly acquainted with every nook and corner of the Alps, having walked over them, in them, and among them, forward and backward, up and down, in every direction, for three years. On parting with him for his ascent (of Mont Blanc), I wished him success, and all the pleasure which he anticipated, 'although,' said I, 'I confess I do not know what that is.' He replied he did not know either, except, being an idle man, he loved the excitement, and always felt a desire to do what others had done before him.'"

We came across him again in 'A.J.' xxxii. 53, through Mr. Montagnier's industry in unearthing the record of his passage of the Weissthor. One's keenness to know more of the doings of this determined climber was whetted further by Mr. A. F. R. Wollaston's discovery of a further reference to him, and this was supplemented by information from Mr. Slingsby ('A.J.' xxxiii. 281).

Mr. Slingsby has continued his investigations and has put me into communication with Miss Fabritius, Mr. Blackwell's grand-



EARDLEY J. BLACKWELL



A. T. MALKIN  
ALPINE PIONEER (*cf.* A.J. x and xv)





daughter. To her I am indebted for the present portrait. Mr. Blackwell was born on May 27, 1832, at Cheltenham, and was the son of George Blackwell of Ampney Park, Gloucestershire, to which property he succeeded without, however, living there, as he had married a Norwegian girl and settled down at Vaagaa<sup>1</sup> in the Gudbrandsdal district, where he bought a property Klognes by the Vaagaa lake, only paying occasional visits to England. Mr. Valentine Richards informs me that Blackwell matriculated at Trinity College, Cambridge,<sup>2</sup> in 1850, having come from Rugby, of which Dr. Tait was headmaster, but he never graduated. Blackwell appears to have left no records of his mountain expeditions, but Miss Fabritius is good enough to refer me to Elise Aubert's '*Fra de Gamle Prestegaarde*,' which gives an interesting account of the romance of his marriage, and of his neighbours.

Miss Fabritius writes: 'What might be of interest to you is perhaps his relations with the famous reindeer hunter, Go Gjende, the hero of Theodor Caspari's book "*Vildren*." This man came from the next valley Hedalen. He built himself a small hut by the Gjende lake (now in my possession) where he lived by himself summer and winter quite isolated from the world. He lived by his rod and his gun and kept a very strict guard against any poaching on the Vaagaa and the Hedalen hunting-grounds. My grandfather met him on his expedition to Jotunheimen, and his thorough knowledge of the Jotun Fjeld was no doubt of great help and assistance to my grandfather.'

Mr. Slingsby has found a reference in the '*Aarbok*' for 1878 to the wild Leirungsdal above Lake Gjende in which is a glacier from which a steep and narrow jökell, or ice-stairs, leads up to summit of Knuthulstind, a fine peak, once considered the highest in Norway: 'it was up that jökell that Blackwell of Vaage tried vainly to climb up to the summit.'

This route was subsequently forced by Claude Wilson and R. L. Harrison with Vigdal in 1885.

Mr. Blackwell died at Vaagaa on December 13, 1866. Scanty as they are, one is very glad to have these few details of the career of a worthy forerunner of ours.—F.

**ATTEMPT ON KENIA (East Africa).**—Sir T. Fowell Buxton, grandson and grand-nephew of the late Sir T. F. and Mr. Edward N. Buxton respectively, and Dr. Arthur of the Scottish Mission at Tumutumu (reached from Thika Station 30 miles north of Nairobi via Fort Hall 30 miles, Tumutumu 25 miles). Left that place on August 19, 1920, with forty porters. First camp about 7000

<sup>1</sup> The correct spelling, so Miss Fabritius tells me.

<sup>2</sup> Another of Blackwell's friends (*A.J.* xxxiii. 281), Thomas Joseph Torr, born 1828, son of Thomas Torr, of Gainsborough, matriculated at Trinity in 1849.

feet, at edge of forest (16 miles). Second camp about 8500 feet—rough path, mainly elephant track. Third camp about 10,000 feet near top edge of forest on south side of mountain, much cutting through bamboo forest. Peak in view. Fourth camp about 12,000 feet—mainly open country—deep tussocks of thick grass and giant heath. Fifth camp about 13,500 feet, 20 F., near a lake, after having ascended to 14,000 feet, allowing of near view of main peak and glacier. Sixth camp about 15,500 feet near edge of Lewis Glacier, the summit of Kenia towering straight above them on the other side of the glacier. From this camp thirty porters were sent down into the Teleki valley while the travellers with two boys, roped, went up the glacier to Pt. Lenana, 16,300 feet, returning to camp. Bad weather and indisposition only allowed of a start on August 27, when the travellers with ten boys, all roped, carrying tents, blankets, &c., crossed the glacier in about three-quarters of an hour and reached the base of the peak and tried Mackinder's route of 1899 which begins by a steep snow couloir about 200 feet high followed by a steep rock pitch covered with ice. From this point the party descended to the near edge of the glacier, whence a route by the ridge which leads from the bottom of the glacier towards the summit was reconnoitred.

Bad weather and indisposition prevented further progress. Tumutumu was regained on September 1, where the travellers were met by Lady and Miss Buxton and Mr. Rupert Buxton who had *motored* all round the mountain, coming that day from Meru, 110 miles. Their route was via Thika (Blue Post Hotel) 11 A.M., Fort Hall 2.30 P.M., Embu Boma 5 P.M. Embu Mission House, 7 miles further, was missed in the dark and the party had to sleep out about 16 miles on. Second day Chuka (Govt. Boma) 20 miles, Meru 60 miles. Third day Nyeri 96 miles (some newly settled ranches), Tumutumu 16 miles. The country motored through is described as magnificent, gorges filled with magnificent trees and tropical vegetation of all kinds. It was evidently a very adventurous journey by no means devoid of danger.

A Paper on several attempts on the mountain was read before the R.G.S. by Dr. Arthur in February.

THE LATE ERNST PÜHN, whose death was announced in the last number, had ascended 76 separate 4000 m. summits or, counting repetitions, 104. His complete list reached nearly 900 ascents, and included 209 between 3000 and 4000 m., and 104 over 4000 m.

DR. BRUNO V. WAGNER, formerly well known among the Austrian climbers, went for a solitary stroll on August 24, 1919, on the Untersberg (Salzburg). No trace of him was found until September 22 last, when practically the whole of the remains were discovered in the *Kühbachklamm*, into the head of which he appears to have

fallen and there remained until an exceptionally heavy rainfall washed the remains out.

THE NEW ZEALAND ALPINE CLUB, of which Mr. Arthur P. Harper is President, is taking up its old activities temporarily suspended by the war, and intends to continue its Journal, of which Mr. T. A. Fletcher of Wellington has been appointed editor. The subscription for members is one guinea, and for subscribers 10s. 6d. Subscriptions can be paid to, and further information obtained from, Mr. R. S. Low, 67 Banbury Road, Oxford.

THE death is announced of M. Juge, of the Hôtel de la Meije at La Grave, aged fifty-four.

M. LE CHEVALIER VICTOR DE CESSOLE of Nice, our Honorary Member, has received the distinction of Chevalier de la Légion d'Honneur in consideration of his services during the war and of the prominent part he plays in all good works in his native town. He is Vice-President of the Bureau de Bienfaisance, to which he devotes much time. He is the moving spirit of the section des Alpes Maritimes C.A.F. in which he spares no pains to attract recruits to mountaineering from boyhood upward.

TOUR NOIR.—By using the N. ridge from the Col Supérieur du Tour Noir (3½ hours from Jardin hut), this peak can be conveniently traversed. Under decent conditions the N. ridge only requires 45 minutes up, the time in the 'Austrian Guide' being much too long.

CHAMPÉRY.—'We are having a most extraordinary winter up here. Men of seventy-five and eighty tell me they have never seen so long a period of drought. We have not had any rain worth mentioning since last October, and very little snow. The result is the spring on which Champéry counts for its power has dwindled from about 18 cubic mètres a minute to 2½. Our light is now so poor that I am unable to accomplish anything in the evening, which is a serious handicap.'

H. F. M.

Feb. 23, 1921.

23 SAVILE ROW.—Major Morrison-Bell learns that the bricks used in building our Club-house, as well as the Burlington Arcade, came from Lord Leicester's estate at Holkham. Lord Burlington helped with advice in building Holkham, and liking the bricks used had some brought up to London by water.

THE BRENVIA AVALANCHE.—Mr. Evan Mackenzie has been good enough to send us a letter from Joseph Brocherel, ex-guide-chef of Courmayeur and landlord of the Hôtel du Purtud, giving

the following details: On November 14 an avalanche of rock, snow, and ice fell from the arête leading from the Col de Peuteret to M. Blanc de Courmayeur, about 400 mètres above the Col. It fell on the Brenva Glacier, of which a part overflowed towards the Chalets de la Brenva and a part towards Purtud, where it destroyed some grass-land. But on the 19th a further avalanche of rock fell on the glacier, and set in motion all the séracs of the glacier. The formidable mass carried away completely the Purtud forest from the moraine as far as the path near the little lake. It stopped short of the hotel, nor was Mr. Mackenzie's chalet injured, but the Doire River was filled in for about 300 mètres and formed a lake, grave danger from which was prevented by the energetic action of the inhabitants in cutting an outlet.

Mr. E. G. Oliver has been kind enough to send in letters from Henri and Adolphe Rey giving similar information. Henri adds that one-third of the arête mentioned is completely destroyed, and that the granite blocks charged right down on Purtud.

*L'Illustrazione* of December 12 contains some fine pictures showing clearly the terrible effects of the avalanche.

## HIMALAYAN NOTES.

THE members of the Everest Expedition are as follows :

Colonel C. H. Howard-Bury, late 60th—in command.

Mr. Harold Raeburn—director of mountain operations.

Dr. Kellas.

Mr. G. L. Mallory.

Captain G. I. Finch, C.B.E.

Major H. T. Morshead, D.S.O., R.E. } *Indian Army Survey*

Captain E. O. Wheeler, M.C., R.E. } *party.*

Mr. A. F. R. Wollaston, D.S.C., R.N., M.B., *Medical Officer and Naturalist.*

Dr. Kellas has spent the winter in India.

Mr. Raeburn leaves for India on March 14 to make the final preparations, in consultation with Dr. Kellas. The others follow in April. It is expected that the party will leave Darjeeling about the middle of May, proceeding *via* the Chumbe Valley to Kampa Dzong in Tibet, and thence to Dingri on the N. side of Everest.

Major Morshead was with Colonel Bailey on his adventurous journey up the Brahmaputra some years ago, and spent last summer with Dr. Kellas in the Kamet district. Captain Wheeler is the son of our Hon. Member, Mr. A. O. Wheeler, the energetic director of the Canadian A.C.

## REVIEWS.

*The Life of Horace-Bénédict de Saussure.* By Douglas W. Freshfield, D.C.L., with the collaboration of Henry F. Montagnier. (Edward Arnold. 1920.) Price 25s.

It is, as Dr. Freshfield says, surprising that de Saussure should have had so long to wait for a regular biography. For he was a very notable figure in his own day, and after; the value of his geological and meteorological observations has never lacked recognition among those who are best qualified to judge. Forbes, who entirely disagreed with de Saussure's opinions on glacier movement, and condemned his maps as worthless, says: 'There is scarcely one of the modern authors with whom I am acquainted . . . whose writings can be compared with those of the great historian of the Alps.' Sir Humphry Davy spoke of him as 'this illustrious person,' who, 'possessing from nature a penetrating genius, assisted its efforts by all the refinements and resources of science.' It is the opinion of Sir Archibald Geikie that 'the labours of de Saussure mark an epoch in the investigation of the history of the globe.'

If it be true, then, that so eminent a man of science has hardly come by his own in popular estimation, some explanation may be sought from the fact that his labours were not for the most part spectacular or calculated to appeal to the imagination of the general public. 'He contributed largely to the stock of ascertained fact,' writes Sir Archibald Geikie, 'which was so needful as a basis for theoretical speculations'; but at the same time 'he did not add much to the advancement of geological theory.' 'Il ne concluait pas assez,' said Buffon. Dr. Freshfield rightly points out that de Saussure was finally disabled by illness at the early age of fifty-four, when he might have hoped for a good many years to draw conclusions from the material which he had collected. It would be wrong, therefore, to blame him for a disproportion between material and results. Still, the fact remains: he was rather a spade-worker and a forerunner than the hero of ultimate achievements and picturesque triumphs. As in geology, so in Alpine exploration; the Mont Blanc episode is typical. De Saussure encouraged ambitions and organised success: the actual victory was won by Balmat and Paccard.

However, if there has been no adequate account of de Saussure till now, the labours of Dr. Freshfield and Mr. Montagnier amply supply the deficiency. 'I have tried,' says the former, 'to deal with de Saussure's life as a whole; to present him not only in the two capacities in which his fame is best established as a geologist and Alpine explorer, but also as a member of society, a citizen, and a philosopher'; and for this purpose a mass of manuscript material—journals and correspondence—has been collected, prin-

cipally by the efforts of Mr. Montagnier. The result is a work in every way worthy of Dr. Freshfield's reputation; it is excellently written, fully documented, and pleasantly illustrated; and, incidentally, the desire to present the hero in a proper setting throws much light on contemporary characters such as Haller and Bonnet, and contemporary events such as the disturbances at Geneva at the end of the eighteenth century, besides presenting a very interesting picture of that curious republic and the clerical oligarchy which failed to govern it. No life of de Saussure, indeed, could be complete without a great deal of such subsidiary matter; he had so many interests and occupations—professorial and municipal work at home, travel and scientific investigation abroad. Not the least interesting part of the book is the description of his travels in France and England. But the prominent place belongs naturally to Genevese life and politics; for de Saussure was only too deeply concerned in the latter, at a time when all his good sense and moderation could not save his country or himself from misfortune.

For the rest, we have now (for the first time so fully told) the authentic story of the early attempts to reach the summit of Mt. Blanc. Dr. Freshfield's account is compiled from all the accessible documents and may, I suppose, be regarded as settling the matter once for all. He estimates the respective achievements of the four principal characters in the story—de Saussure, Balmat, Paccard, Bourrit—very justly. To the first, no doubt, belongs the credit of popularising the idea of climbing the mountain; he might be called the 'onlie begetter' of the plan. As early as 1760 he offered a reward to the first ascender. Nothing, however, happened till 1775; then, and again in 1783, Chamonix men made unsuccessful attempts; and in 1784 the enthusiastic (but sadly injudicious) Bourrit got as far—or rather his guides did—as the site of the present Vallot Observatory. De Saussure himself now entered the lists, and with Bourrit made an attempt in 1785, but was turned back by fresh snow. Then, in 1786, victory was achieved. Two Chamonix parties got as far as the foot of the arête of the Bosses; there they were turned back by apparent difficulties; but Jacques Balmat, who was with one of the parties, formed his own idea as to the conquest of the mountain, and on returning to the valley proposed his plan to a local doctor, Paccard. Three weeks later (August 8, 1786) the two stood on the top of Mt. Blanc. Scanty justice has been done to Paccard; the natural disappointment of Bourrit led him to do all he could to minimise the performance of a successful rival, and his disparagement has too long held the field. But de Saussure's notes, now for the first time published, must rehabilitate this excellent climber. To him belongs at least half the credit of victory. He was animated by pure enterprise, and no financial motive; he ascended with one guide; and he himself led during part of the ascent, in snow that alternately bore and broke. The many who have led in similar

conditions know what that means. Paccard was a strong man and a born mountaineer; and it is time, as Dr. Freshfield says, that 'the Alpine Clubs provided for the erection, beside the monument at Chamonix to de Saussure and Balmat, of some memorial to the village doctor.' It was not till the following year that de Saussure, accompanied by no fewer than sixteen guides (he was a rich man, and did not expose himself to unnecessary hardships), himself made the ascent. The expedition is described in his 'Voyages,' and the description is now supplemented by the MS. diary which has been placed in Dr. Freshfield's hands. Other chapters in his biography record his many excursions into different Alpine regions—visits to the Oberland, to the Lepontine Alps, the tour of Mt. Blanc and Monte Rosa, a sojourn of two days on the Col du Géant. Most of these are in the 'Voyages,' and further details are added from letters and diaries. All these accounts of early Alpine travel are, of course, exceedingly interesting; but it must not be supposed that these expeditions added much to existing knowledge of routes. That was not de Saussure's intention. He was travelling to observe mountain phenomena scientifically, not primarily to undertake adventures or to make new routes. The paths which he followed in the Monte Rosa district were naturally not much frequented, but they were all known. Some were, in fact, easier than at the present day; till 1750, or so, the Théodule Pass was often a mule-track; and de Saussure and his son found it not impossible, though very difficult, to bring mules across in 1789. This was the expedition which gave him his first sight of the Matterhorn, 'that magnificent rock.' But Zermatt was inhospitable, and the Vispthal had no particular attractions for him.

It may be seen that de Saussure was not in strictness a pioneer or a leader of adventure in the Alps. But his name will always be among the foremost in Alpine literature. It is right that it should be so; for, apart entirely from his eminent services to the study of geology, he makes a very strong appeal to the average Alpinist of the nineteenth or twentieth century. He was among the first of his age to be definitely attracted and not repelled by high mountain scenery—not the mountain valley, but the glacier and the peak. Heights drew him. 'I have had,' he writes, 'from childhood the most positive passion for the pleasures of the mountains. I still remember the sensation I felt when my hands for the first time touched the rocks of the Salève.' Mont Blanc 'haunted him like a passion'; or, as he himself puts it more prosaically, 'it became for me a sort of illness.' Something, no doubt, was due to the emotional stirrings of the period—to Rousseau, and the 'return to nature,' and the discovery of beauty in rural scenery rather than in formal gardens; something, doubtless, yet probably not very much, for, as Dr. Freshfield truly points out, Rousseau's natural beauties are sub-Alpine rather than Alpine. No doubt, too, we must not forget the then growing fashion of going to see

glaciers at Grindelwald and elsewhere—less, it is true, in a spirit of admiration than of terror. But de Saussure's emotion was something which, while not excluding Rousseauism and curiosity, was quite different from either. This desire for the mountains (as for the Absolute Good) had occasionally in the world's history found some sort of expression, but had never really taken hold on popular imagination. Perhaps it appears, here and there, in Greek literature; the Europe of the Renaissance knew it, and Gesner (1516–1565) is claimed by Dr. Freshfield as 'the spiritual father of all Alpine Clubs.' But these were sporadic outbursts, and did not last long; the prosaic mind of the early eighteenth century definitely stamped mountains as 'horrid'; and the public opinion of Geneva gave de Saussure scant encouragement. The Genevèse (nothing if not highly respectable) had no use at all for *Monts Maudits*, and the savage recesses of Chamonix were regarded as being for all practical purposes as remote as Tibet. Elsewhere, certainly, there was a kind of revival. The popular mind was beginning to turn towards the mountains; it was just beginning to undergo that change which later found expression in Romantic poetry, and later still undertook the direction of the athletic activities of the nineteenth century. De Saussure gave this changed feeling copious expression. It goes with his sincere love of mountains that he writes about them reasonably, as a candid observer, without making either too little or too much of difficulties; sometimes he is really eloquent, with the eloquence of truth and not of exaggeration ('his delineations,' said Sir Humphry Davy, 'are equally vivid and correct'); in this respect he is a striking contrast to his friend Bourrit, that Genevèse Tartarin, whose 'Midi lui monte au cerveau' on a glacier pass, and leads him to lurid excesses of description.

De Saussure, then, is ever to be remembered as the foremost of those who rekindled and kept alive the sacred flame. 'It was mainly,' says Dr. Freshfield, 'through his practical example and his writings that the High Alps were brought within the scope of the new interest in natural scenery, that they won for themselves a place, grudgingly yielded at first, on men's lips as "Beautiful Horrors," and then came to be hailed by poets as the Palaces of Nature, and accepted by the European public as the Playground of Europe.'

From the *Journal de Genève* over the signature Edouard Chapuisat:

'... Il faut louer M. Douglas W. Freshfield de nous donner enfin une "Vie d'Horace-Bénédict de Saussure." Grâce à la collaboration de M. Henry Montagnier, auquel rien de ce qui concerne de Saussure n'est étranger, M. Freshfield dresse sous nos yeux le portrait vigoureux du conquérant du Mont-Blanc. Archives publiques et archives privées, tous les papiers d'autrefois furent



fouillés par ses soins et il a su en tirer non pas un fatras de documents, mais une belle page d'histoire. . . .

'M. Freshfield, qui n'est pas seulement un écrivain de mérite, mais qui est aussi un alpiniste distingué, consacre aux essais et à l'expédition définitive des chapitres fort intéressants au point de vue scientifique. C'est là une belle page d'histoire. Le nom du physicien y paraît en pleine lumière, sans, d'ailleurs, que soient oubliés ceux qui, tel que Balmat, furent ses lieutenants habiles et courageux. . . .

'Le souvenir du grand savant méritait d'être évoqué; celui du citoyen fidèle ne doit pas échapper à notre mémoire. M. Freshfield, qui sut présenter avec tant d'autorité le caractère de notre illustre compatriote, s'est assuré notre reconnaissance. Il a marqué, une fois de plus, avec quelle sympathie les érudits du vaste empire britannique suivent le développement des idées dans cette Genève si petite, mais dont le rêve fut toujours de tenir très haut le flambeau des libres recherches.'

From the 'Gazette de Lausanne' over the signature Pierre Grellet :

' . . . L'auteur est lui-même un des pionniers de l'alpinisme, ce qui explique sans autres l'intérêt qu'il a voué au premier explorateur scientifique de nos montagnes.

'Au point de vue national, on peut certes regretter, comme le fait lui-même M. Freshfield dans sa préface, qu'il ne se soit point trouvé d'auteur suisse pour écrire l'ouvrage que vient de publier à Londres le grand éditeur Arnold, mais ce n'est pas la faute du biographe anglais de Saussure et, le livre lu, on ne peut qu'admirer la sûreté, la maîtrise et l'intelligence avec lesquelles un écrivain étranger a fait revivre son héros dans l'atmosphère d'une des époques les plus brillantes, mais les plus troublées de notre vie intellectuelle et politique.

'En ce faisant, M. Freshfield, qui est un des maîtres de la littérature descriptive anglaise contemporaine, a rendu à notre pays un hommage qui mérite notre plus sincère reconnaissance. Ancien président de la Société Royale de Géographie de Londres, président du Club Alpin anglais il y a près de 30 ans, le biographe de Saussure est un des plus anciens et des plus fervents amis de la Suisse. Il a parcouru nos Alpes à l'époque classique de l'alpinisme et leur a consacré, en 1865, son premier ouvrage. Depuis lors, il a fait paraître une série de récits d'exploration dans les montagnes du Caucase et dans l'Himalaya qui, par la haute valeur de leur observation scientifique et—rencontre particulièrement précieuse—le charme de la narration et la grâce du style l'ont placé au premier rang des écrivains de langue anglaise.

'Ces qualités se retrouvent dans son dernier ouvrage qui, à côté de son mérite intrinsèque, offre l'intérêt particulier qui s'attache pour nous au jugement d'un observateur étranger de notre histoire.

' M. Freshfield nous apprend, dans sa préface, qu'en 1878 déjà, Ruskin, lecteur assidu des " Voyages dans les Alpes " d'H.-B. de Saussure, l'avait engagé à écrire la biographie de l'ascensionniste du Mont-Blanc, mais qu'il fut retenu par la difficulté de faire des investigations prolongées dans les papiers de famille et les archives de Suisse. Cet obstacle, l'auteur a pu le surmonter grâce à la collaboration de M. H.-F. Montagnier, un Américain érudit, bien connu dans les milieux alpinistes d'Angleterre et de Suisse et qui, résidant depuis nombre d'années dans notre pays, auquel il voue le plus vif intérêt, a assumé toute la partie documentaire de l'ouvrage. Avec un zèle et une patience inlassables, servi par les nombreuses relations qu'il possède en Suisse romande et à Berne, M. Montagnier a fouillé nos bibliothèques et nos collections particulières, recueillant une foule de matériaux inédits qui ont servi à charpenter le volume. Cette piste, suivie pendant plusieurs années avec méthode, persévérance et sagacité a été extrêmement féconde. Nous devons à ces recherches, judicieusement ordonnées et habilement mises en valeur, une biographie copieuse et large, qui n'est point seulement l'histoire d'une carrière ou le récit d'une vie, mais le tableau de toute une époque. . . . '

Since the publication of Mr. Freshfield's ' Life of de Saussure ' fresh material has been discovered by one of his descendants in a cupboard in the de Saussure mansion in Geneva. This has been summarised in three pages of *Addenda and Corrigenda*, made for insertion in the volume. These Mr. Freshfield will be happy to send on application to any members of the Club who possess one of the first issues of the ' Life.'

*Mountain Craft.* With 28 illustrations. Edited by Geoffrey Winthrop Young. (London : Methuen.) Price 25s.

THIS long-postponed and eagerly awaited book has at length appeared, and high as the reader's expectations may have been he is not likely to be disappointed. All of us have realised that there have been great advances in climbing technique in the last thirty years. But this work is no mere correction of former errors nor bringing up to date of antiquated handbooks ; it is the fruit of first-hand knowledge gained in an Alpine career which has ever been distinguished by originality in mountain enterprise, and we now see that originality carried into the field of technical literature. The most notable features of a wholly notable book, those parts dealing with the psychology of the mountaineer, his management of himself, his companions and his guides, are quite beyond the scope of anything of the sort which has ever before been attempted.

Having told us in his preface that it has been the practice of writers of mountaineering handbooks to squeeze grave principles

and edifying three-line precepts out of random holiday memories and days of irresponsible adventure, Mr. Young assumes the necessary mien of solemnity and gives us the precepts and principles with uncommon skill. The reader cannot fail to enjoy playing this game with his author, even though the composure of his face may at times be in danger of breaking down should he think too much of the holidays and the adventures.

The first chapter, that on management and leadership, is in every way a happy innovation, and discreetly blends practical advice as to the care of our stomachs and club huts with suggestions on less well understood but no less important matters, such as the varying moods of a climber in adversity and success and the social composition of a party. The section on walking manners should be made a compulsory subject for every youth whose aspirations are likely to lead him beyond a road. Here the reader will gleefully wander through descriptions of the faults which he has so often had reason to deplore in his companions till he is suddenly pulled up by the ruthless exposure of some walking mannerism which he has hitherto looked upon as one of his own harmless idiosyncrasies. The necessity and importance of pace is rightly emphasised, and throughout the book there is a steady advocacy of the saving of seconds. In the higher forms of mountaineering considerations of safety and the amount of work to be fitted into the day are the overwhelming arguments, but it is none the less a mistake to suppose that in more gentle phases of our sport pace means purposeless hurry and discomfort. Rather is it the comfort of well co-ordinated continuity of movement, unbroken by needless and irritating delays and leading to the enjoyment of the longer intervals of repose which may thereby be obtained.

Of the necessary differences and the growing similarities between professional and amateur guiding, of the directions in which the amateur can hardly hope to equal the guide and those wherein the guide should, but so seldom does, strive to equal the amateur, Mr. Young has much of interest to tell us, and our interest is still further quickened when he goes on to explain to us the manner of his many successes. Our fathers before us wrote nothing on this subject. If they ever thought about it they did not take their public into their confidence. When they had occasion to describe their doings the rude elementals of a new and exciting sport sufficed to fill their thrilling story. Their readers, misled by the unstinted praise which they lavished upon their guides, were too apt to regard them as hardy automatons and give them credit for nothing but the physical endurance which enabled them to follow in the footsteps of the all-skilful natives of the Alps.

Mr. Young, on the other hand, may be accused of doing but scant justice to the professional mountaineer. He seems to imply that the good amateur climbing with the good guide should be 'in control' of the party, and 'in an important decision as to advance

or retreat . . . is . . . in a better position to weigh the value of the party against the resistance of the mountain.' We do not know where Mr. Young draws the line which separates good amateurs from amateurs in general, but amateurs will do well to remember that there are few Youngs; and most of them will be mistaken if they suppose that they can ever assume this position when climbing with a good guide, nor should any good guide accept a decision to advance if it be opposed to his own judgment. We cannot admit that the relation of the good guide to his employers should ever be that of a professional cricketer to the amateur members of his team, and still less can we admit the startling proposition that 'every guide's nervous system has a snapping-point,' coupled as it is with the assertion that the snapping will come sooner to the guide than to the best amateurs, and the suggestion that it will be brought about by fright. The general impression given by this portion of the book is that the author has been unfortunate in the men whom he has employed. Many mountaineers will contend that they can name men whose snapping-point in many an ordeal has never shown any symptom of approach. Amongst these names might well be that of Franz Lochmatter of St. Niklaus, of whom it was once written:

'The climb must always be difficult, but bad weather and icy conditions increased its severity to such an extent that for some seven hours it was well beyond the powers of every member of the party, professional or amateur, with the single exception of Franz Lochmatter.

'There is no question that the party owe their lives to his magnificent nerve and extraordinary brilliance. It would be impossible to do justice either to the series of amazing climbing feats he accomplished or to the quiet and cheerful courage which storm, danger, and long hours of unique responsibility were alike unable to disturb.

'I have no hesitation in saying that, as far as my experience goes, he has at the present time no rival as a climber, and no superior as a resolute, refined, and charming personality.'

The occasion was probably the most dangerous climb in the lives of two men, each in his own sphere almost without a rival: the recipient of this splendid testimonial, and the giver, G. Winthrop Young.

From the general we pass to the particular, the technique of rock, of ice, and of snow. The section devoted to rock opens with a theory of the growth of rock-climbing and its share in the development of mountaineering. We read of the walking epoch, the period of easy balance, when the pioneers demanded a flat surface for the whole of the foot, and finding it more readily on snow than on rock sought out snow routes to the tops of their peaks. So we are taken through the gully epoch, the period of the grip hold and the arm pull, to the final evolution of the slab

epoch, the period of the higher balance, where Mr. Young considers man has reached his limit of possibility in rock-climbing. The men of the gully epoch 'with its somewhat clamorous record,' they who pulled the grass tufts out of the holds which their followers have polished, indexed, and described, are dealt with in a summary manner; but it is not to be forgotten that when they defied the old Alpine tradition by climbing up the wrong sides of British hills, the very existence of which was hardly known to their less energetic contemporaries, they were founding our home school of climbing, which of late years has had so much influence on the development of the higher mountaineering.

Of rocks loose and rocks sound, holds inward and holds outward, of those parts of the body which should be allowed to use the said holds and the manner of their using, the most industrious student of the minutiae of rock-climbing will find all that he can desire. The air is cleared for the beginner by the intimation that 'marabout rope tricks—means of evasive traction or detached æthereal flight'—are not for his mundane mind, but he is coached in all true ways of using the rope and its belays, and warned against many of the mistakes which he should cast off in his first youth. No longer can the fool who sits in his stance remain blind to his folly, nor can he who pulls himself up on the rope ever again plead ignorance as a defence.

Though much of this chapter and that on climbing in combination is of necessity written for the beginner, the experienced will also find many things worthy of their attention. Would that every man behind would take to heart the exhortation to keep the rope free for the man in front at the cost of all and every inconvenience to himself; and would that every man in front would remember that he should not go on with unslackened speed while his companion behind is negotiating a check-point—'a roguery,' Mr. Young tells us, 'ingrained in all but the best of guides.' Moreover, let no one who would be a force in a climbing party, though he be relegated to the middle of the rope, fail to read every word of that sub-section which bears the attractive side-heading 'Backing up metaphysically.' Here he may learn of the abnegation of self and the unobtrusive yet ever-watchful nursing of his leader, which are the essential attributes of a satisfactory second man. How many climbers, who have spent their lives at the obscure tail-ends of ropes, have failed to realise how shattering their inconsequent chatter may be to the nerves of a leader who is wrestling with the difficulties of a passage above their heads!

We are introduced to snow and ice in a delightful preface of three pages, where the technical expert withdraws and for an all too brief moment our old friend the hill poet is allowed to appear. We shall never again look at Great Gable from Wastdale without thinking of that venerable mountain at peace with the green fields at its feet. Nothing could be a more fitting accompaniment

to such a preface than Mr. Spencer's superb view of rock, snow and ice, northern shadows and sunlit southern cloud.

The possibilities of rock-climbing have grown beyond all expectations in the last fifty years, but since the first crossing of the Col Dolent and the ascent of the Brenva face of Mt. Blanc, there has been no marked advance in achievement on ice and snow. The only advance of moment has been in the direction of pace rather than in the overcoming of greater difficulty, and has been brought about by the better understanding of crampons. The time is past when anyone can sanely argue against the advantages of crampons on expeditions where it is necessary to climb long ice-slopes too steep for quick progress without them, or against their necessity when the length of the day's work makes every possible means of acceleration imperative. Not everyone will share Mr. Young's optimism as to the extent to which they are destined to supersede step-cutting on the steepest ice-slopes. He himself admits that there is a limit to the angle upon which they can be used without steps, and that this limit is lower than that which has sometimes been arrived at by experiments on glacier ice, where the nature of the surface and the circumstances of the trial are entirely different. There is much to be said for the view that when a climber is reduced to step-cutting he will progress as quickly and more safely balanced on the soles of his feet, and that it is a fallacy to suppose that crampons will enable him to use smaller steps with safety. When once the habit of an easy and free balance has been attained we doubt whether any spiked device will improve a climber's stability in a well-cut ice-step, and still further do we doubt whether a beginner will ever acquire such a balance if he does not at first learn to find it on his unaided feet. Here there is an analogy in the case of rowing—an art which was revolutionised by the invention of the sliding seat. Nobody supposes that the sliding seat is anything but a necessity for fast rowing, yet nearly half a century of its use has done nothing to shake the belief that the beginner must learn the rudiments of his art, which are largely a matter of body balance, on his own unaided posterior. We take it that Mr. Young has never seen the side of a crampon split away the whole floor of a narrow step on steep and thoroughly hard ice, yet the row of four or five sharp spikes is precisely such a tool as might be devised to produce that result. Hard ice at angles above  $50^{\circ}$  is climbed far less often than many mountaineers imagine, so that data accumulate but slowly, and the extent to which crampons are going to be generally useful on ice-slopes of maximum steepness remains for the future to show.

Step-cutting having thus been side-tracked by Mr. Young, it is a relief to us when he goes on to expound that which he regards as a semi-obsolete art, for he writes of the making of steps and their use with a fullness and clarity never before reached in our language. Incidentally he explodes that firmly established fiction beloved of

the theorists of the past, that the adept produces steps by a swing from the hips.

Of the practice of climbing two on a rope on snow-covered glaciers we find little but condemnation. Anyone who has found himself descending over a wide and complicated bergschrund with a single companion at the end of a hot afternoon, should realise that there are moments when two men climbing alone together must incur some extra danger in payment for the obvious and great advantages which they gain elsewhere. Yet serious falls into crevasses, though admittedly not so impossible as some would have us believe, are rare occurrences amongst parties whose leaders possess that mental alertness which, rather than super-excellent eyesight, is the greatest safeguard against such contingencies. There are mountaineers of no small experience, who have had the good fortune never to see a complete fall into a crevasse, and there are also cases on record where one man has succeeded in extricating his companion after such a fall. If the warning is over-emphasised, it is, at any rate, a good fault, and those who will still persist in the practice cannot say that they have not been cautioned, for their hair is made to stand on end by a harrowing picture of the consequences which may befall them. With his usual completeness Mr. Young does something towards soothing their nerves by a thoughtful synopsis of the most promising lines upon which they should attempt a rescue.

Reconnoitring, so far as the Alps are concerned, has been largely discounted by modern maps and guide-books which tell us more of the unseen than we are likely to discover by any other means. On the interpretation of things seen or half seen we are given some valuable hints, especially with regard to cornices, the probabilities of their existence and their distant appearance. As to knowing the intentions of a snow-slope by the look of its face, Mr. Young indicates what must be learnt, but holds out little hope that anyone will here be the wiser by the reading of books. Those who have the good fortune to explore more distant lands may benefit by some remarkable suggestions of the possibilities of reading the unseen by its reflection in the sky.

Ardent mountaineers will read the chapter on equipment with the interest and respect which they owe to so great an authority as Captain Farrar. They will then, if we know them aright, go back to the mountains and put into practice all their own particular theories and fancies. Mr. Young, it appears, will place himself at the head of the rebels, for he calls them to arms in a spirited counter-manifesto which he inserts in the middle of the chapter. Captain Farrar gives a summary of his work with Mr. Eckenstein in the investigation of the merits and demerits of various ropes, while we note with satisfaction Mr. Eckenstein's exposition of knots and their tying, with its much needed and lucid definition of that frequently misunderstood nautical term 'with the lay.' More than one

author of the past has casually told his readers that they must tie their knots with the lay, yet maintained a discreet silence as to how it is to be done.

Though we have attempted the difficult task of drawing attention to some of the points where this authoritative and carefully prepared book may be open to controversy, this review has failed in its purpose if it has given an impression of any sentiment other than admiration. No mountaineer can fail to find interest and instruction in some part of this great storehouse of accumulated wisdom. Some there may be who will find it a prosaic reduction of a pleasant pastime to an exact science. If so they have been blind to a light which shines on every page for those who can see it between the dry facts and the precise theories, the sparkle of Mr. Young's belief that mountaineering, at its best an 'incomparable adventure,' is always a glorious game, and as such is worthy of our every effort to play it as well as we can.

Amongst the supplementary chapters, which are the cause of the title-page's modest description of Mr. Young as editor, that on mountaineering on ski contains much which justifies its greatest length. The reader may be indignant at Mr. Lunn's assumption that his dull brain cannot grasp the principal points of a treatise unless it be stimulated by the constant use of italics, some few excursions into capital type and occasional reiteration. He will certainly be irritated by a multitude of unnecessary references to pages which he has just read or is just about to read. Here even the compositor seems to have conspired, for once he makes Mr. Lunn refer us to a page which we are actually reading. Having suffered, we say, these natural emotions, the reader will quickly recover himself in the enjoyment of his reading. Mr. Lunn has wisely made no attempt to explain ski technique, of which he has written fully elsewhere, and devotes the greater part of his space to the peculiar problems which the mountains present at seasons when they are unknown to the majority of mountaineers. Winter mountaineering will become a safer occupation if all those who indulge in it will follow Mr. Lunn's example and devote their minds to a thorough study of snow surfaces in relation to winter conditions, and even those summer mountaineers, 'disgruntled foot-sloggers,' Mr. Lunn would call them, who never propose to burden themselves with ski will find much in this chapter which it will be worth their while to absorb.

Mr. Spencer in a short chapter sets out for his brothers of the camera some part of the knowledge which places him in their first rank. Mr. Slingsby writes of Norway and brings to his task an unrivalled knowledge of the mountains of that country tempered by the experience of a distinguished Alpine career; while other authors tell us of distant ranges about which they are well qualified to speak. An intelligent inhabitant of Corsica may some day be astonished to observe that the mountains of his island have been



honoured with a place in this book. It is to be regretted that Mr. Elliott, who writes of the Pyrenees, has been unable in the space allotted to him to give us a résumé of his interesting and original researches upon the fauna of those mountains.

*Mountaineering Art* By Harold Raeburn. (Fisher Unwin. 1920.) Pp. 274. Price 16s.

‘MOUNTAINEERING is the art of getting up and down mountains,’ so begins Mr. Raeburn’s book—and assuredly what he has to tell us deserves our respectful attention, for his experience in all branches of mountaineering is very extensive, and he is one of the most accomplished of modern mountaineers.

The book, though not bulky, is rather heavy in the hand. It is not a book for the pocket, and though a centrist might pack it, the wanderer will not. Printed on thinner and lighter paper it would have been a welcome *compagnon de voyage*. Sections are devoted to Equipment, to British and Alpine Mountaineering, to ‘Ethics and Rules,’ and to Exploration. There is a short section addressed to Lady Climbers, a good index, and a short glossary of somewhat singular selection. Possibly this has reference only to words used in the work—we have not tested it; but a really complete glossary of Alpine and climbing terminology would have been a welcome addition to the book, as the best pre-existing is admittedly imperfect.

Mr. Raeburn very gracefully acknowledges his indebtedness to previous works of a somewhat similar nature, such as the excellent little 2s. book, ‘Mountaineering,’ by Claude Wilson, and he frequently quotes from these, and from the older Alpine classics, sometimes indicating his agreement and sometimes his disagreement with the views and statements of some thirty or more years ago. But on the whole the canons of mountaineering as laid out of old appear still to hold good to a very large extent. Yet matters have advanced, and, for one thing, modern mountaineering without the assistance of professional guides may be said to have made good. Credit is given to some of the pioneers of this movement, but nothing is said of the exploits of the Zsigmondys and Purtscheller in the early ‘eighties, and the author is very reticent as to his own achievements, which are not surpassed by those of any other modern party.

Mr. Raeburn’s enthusiasm for guideless climbing indeed carries him a long way; he even goes so far as to say that every beginner should look forward to being his own guide some day. But a word of caution is needed, for grave risks have been run, and lives lost too, by amateurs who, failing to realise their limitations, have undertaken expeditions beyond their powers. In our opinion guideless mountaineering, based on an insufficient period of initiation, is becoming perhaps too common. On the

other hand, to call a party 'guideless' because it does not include a professional is, as Mr. Raeburn points out (p. 9), a misnomer, for it may contain one or more members of many years experience, often pupils of great guides, and of a capacity quite equal to any of the regulation great ascents. It must not be forgotten, however, that modern facilities, such as maps and books, scratches and tracks, have much reduced the demands on the mental capacity of the modern 'guideless' leader.

While on this subject, we cannot omit comment on Mr. Raeburn's extraordinary statement that 'most' of certain named climbers 'were, both as mountaineers and climbers, not merely the equals, but much the superiors of the best Swiss guides.' He will make the survivors blush, and make us remember that his personal experience of the powers of the best guides is extremely small, while his knowledge of their record in distant ranges appears to be defective. In our opinion, and it is widely shared by leaders of amateur parties who have learned their craft under great guides—surely the best school—there never has been an amateur who, taking into account all the attributes that go to make the great mountaineer, has been the equal of the best professionals of the day.

Mr. Raeburn, though looking on four as the ideal number, is a vigorous advocate of the party of two, and he even excuses his own weakness for solitary climbing. He may be a law unto himself, but climbing alone is not sound, and a party of two must be both good men, while even so a third—almost any third—adds a desirable element of safety on a snow-covered glacier. Indeed, the party of three remains for us the ideal.

Among the novel features of the book are the three 'imaginary,' or more truly 'synthetic,' climbs: A British Rock Climb—A British Snow Climb—and An Alpine Expedition—all of them of rather more than average difficulty, and so arranged as to bring as many and as varied experiences and situations as possible into the day's work. The climbers are labelled A, B, C, which makes their doings tedious to follow, and continual repetition of the capitals lends to the pages a somewhat Euclidian aspect, while the narrative seldom reaches the level which the record of an actual day's work inspires. But they are illuminating chapters—original in conception—and should convey to the uninitiated an idea of the varied pleasures, discomforts, and sensations which mountain-climbing in its various phases has to offer.

Any attempt to review or criticise the details with which this book is packed would probably test the patience of the reader beyond reasonable endurance. Some will not agree with Mr. Raeburn's strong advocacy of small boots; and most men have fads of their own as to some details of equipment. But his advice is very generally sound and reliable, and the bubble of the snow-eating 'danger' needed pricking. At the same time, snow may upset some stomachs. It seems curious, though, that with his aluminium

cooker and his flask of methylated spirit, he should apparently not have discovered the secret of a really good long 'drink' made from melted snow, lemon essence, and sugar (or saccharine), to be drunk nicely iced, or boiling hot, according to the moment.

We can thoroughly endorse what is said as to the merits of 'Pommade Sèche-haye' as a protection to the skin. Mr. Raeburn omits the maker's address: E. Hausser, 10 Place du Bourg de Four, Geneva.

Mr. Raeburn expresses his thanks to the contributors of the plates. It seems ungracious to say that only about half of these strike us as satisfactory illustrations. The line drawings of implements, ropes, are useful. Some of the photographs of climbers at work are good enough, but surely one could almost waltz on the gentle snow-slope (p. 80) where such cautious methods are depicted. Again (p. 183), is it a 'chimney'? It looks like a 'face'; and the 'Vertical Pose' (p. 189) looks very far from vertical. The 'Gritstone Table' (p. 54) is a delightful picture. Somehow it recalls the Caterpillar in the 'Alice Book.'

Despite the advances of modern photography, the best pictures of climbers at work have been 'drawings,' and possibly Whymper and Willink and Compton will never be equalled again.

Mr. Raeburn's book is one which all ardent mountaineers will buy. The style is terse and direct, and he never leaves one in any doubt as to his meaning. We heartily congratulate him, and though it can add nothing to his reputation as a mountaineer, which is already secure, it leaves the Alpine fraternity in his debt. Yet Mr. Raeburn might do more. Instead of his 'Imaginary Climbs' let us have a book of real live reminiscence.

*Den Norske Turist-Forening's Aarbok, 1920.*

THE long-delayed issue of this Year Book is a proof that our Norse friends have met with publishing difficulties similar to those encountered in England. However, the reputation of its predecessors is well sustained in the present issue. The record of new mountain ascents is, for reasons which are obvious, smaller than usual. Still, what there is may certainly be termed good.

The erection, some years ago, of the cosy mountain hut at Krossboden, near the huge Smörstabsbræ (the Butter Tubs glacier), may be said to have created a new and a much-needed mountaineering centre, the need of which those of us who were actively engaged in the sport of mountaineering in 'Jotunheim' during the 'seventies in last century were well aware.

As the excellent and witty paper of Nordahl-Olsen, which first appeared in the Aarbok for 1912 of the city and province of Bergen, and which now enriches the pages of the N.T.F.'s Aarbok, clearly shows, the ascents of the various weird peaks, the Smörstabstinder, can now be readily made from a fairly good mountain hut. Not

only this, but glacier passes can be made over to the Leirdal and Gravdal. Ascents have also been made of Galdhöpiggen and the monarch's guardian satellites from this centre.

Certainly the Smörstabstinder and glacier afford excellent sport. Three distinct peaks, Saska, Gjeita, and Kniven, are really good rock peaks. I have only climbed Loftet, the highest of the group, and that an outlier—one, too, which had previously been ascended by ordnance surveyors.

The leading features in this year's Aarbok are the expeditions made by the clubs of Boy Scouts, established after the English model in 1909.

The most notable of these consisted of a leader and twenty well-trained lads, with several years' practice and a 'right grip of things.' This, indeed, was needed, on their journey, though it began easily by rail from Christiania to Throndhjem. From the latter city the party went by steamboat up to and round the N. Cape and thence to the head of the huge Porsanger Fjord—a good 1200 miles so far, and an easy trip.

There are other good papers in the Aarbok, and, as is always the case with this annual, there are excellent photographs, especially, perhaps, that of Rembisdalsvand.

An 'In Memoriam' notice and an excellent portrait of Bankdirektør Jens Andersen Aars will interest many of our A.C. members, as it was he who represented the 'Norske Turist Forening' at the Jubilee meeting of the Alpine Club, when he made an excellent and a very appreciative speech to us at the A.C. General Meeting.

The report of the Annual General Meeting of the N.T.F. will interest many of us who knew well the noble Skjæggedalsfos, which, sad to relate, has been entirely ruined by the greed of men who have transformed Tyssedal and Odde into a jumble of workshops. So far as I can see, the true Norsk mountaineers strongly condemned this desecration.

WM. CECIL SLINGSBY.

*The British Ski Year-Book.* No. 1, 1920. Price 3s. 6d.

THE first issue of the British Ski Year-Book is full of promise for the future. One cannot fail to realise that the high standard reached is, in great measure, the result of boundless enthusiasm and sincere love for the mountains on the part of the editors, and in particular, Arnold Lunn. His 'Ski Tour in May' is the writing of a man who climbs and skis in the Alps, not for the sake of 'doing' them, but because they are friends in whose society he revels. Even though one may be of the fraternity of that unsurpassed of all ski-mountaineers, Marcel Kurz, in regarding skis merely as a means of 'getting there,' and experience no pleasure in climbing up a slope just for the fun of skiing down it, yet when one catches a glimpse of something of the sheer delight which is Arnold Lunn's as he

rushes down a mile-long snow-covered slope, one may be wrong after all.

One of the features of the book is Maxwell Finch's 'A Winter's Night on the Tödi,' a well-told narrative, from which the mountaineering ski-er will be able to gather many a useful hint. The imperturbable Max is here seen at his very best, whether rescuing himself from a crevasse or sitting out the whole of a winter night, *toujours le même*.

One looks forward to the next number of the Year Book, full of confidence that the high level reached by the first issue will be maintained. A work prompted by enthusiasm and love for one's subject can never be dull or laboured.

*The Climbers' Club Journal*, 1920. Hazell, 52 Long Acre. 5s.

MR. MALLORY must be congratulated on this volume, the first under his editorship. It is very well turned out in every way. Not the least amusing are the verses on 'Climbing Companions,' by R. Bicknell, in which he takes off, very gently, our climbing peculiarities; and Herbert Reade's on 'The Complete Climber.' Rudyard Kipling must look to his laurels! Two lines seem singularly applicable to the author himself:

'You will talk with manner easy of a traverse rather breezy, an uncompromising slab,  
Where you often love to linger, though no hold for foot or finger,  
crawling sideways, like a crab.'

Geoffrey Young's 'The Nesthorn' describes a season of guideless climbing in 1909 with Donald Robertson and George Mallory. The incident, vividly described on page 19, will give the most self-contained climber sufficient sensation.

Other articles are 'A Night in the New Forest,' by David Pye; 'Rum,' by Conor O'Brien; and 'Home Climbs,' by W. P. Haskett-Smith. W. W. McLean's 'First Impressions of the Alps' brings back to us all happy memories; George Finch describes a traverse of the two Dru made by himself and his brother Max with a rather careless German climber. It speaks much for the capacity of the brothers that their companion did not come to serious grief.

Notes on the season of 1919 are contributed by J. L. G. Hadley, and on 'Snowdonian Place-Names' by E. W. Steeple; while G. S. Bower, one of the most indefatigable and able of the young generation, tells us his experiences in the Highlands.

*Guide des Alpes Valaisannes*. Vol. iv. Du Col du Simplon au Col de la Furka. Par Marcel Kurz. Payot & Co. Lausanne.

THIS volume may be said to be a new and much extended edition of the 'Climbers' Guide to the Lepontine Alps,' published in 1892, and one is much indebted to the very able young mountaineer who has taken on himself the labour of revision.

We are almost sorry that it could not have been arranged for him to put all this work into a guide to a district containing at least a few summits of any magnitude, and a few *courses* which could be called difficult, so that we could have availed ourselves of it more frequently.

His descriptions of routes are admirably clear. A mountaineering leader himself, he knows exactly what kind of information the climber wants, so that he who runs may read.

The seventy-five sketches from his own pen are the best of their kind. Speaking personally, we lay great stress on the rough outlines of routes as a means of advancing one's mountaineering education. It is often quite enough, and more interesting, to have in one's mind's eye the general line, and work out the details on the ground itself.

We must not, at the same time, be held to 'crab' this or any similar book which, on the precedent of Mr. Coolidge's volumes, contain much interesting historical and topographical information besides route-descriptions.

The book is well printed but is needlessly heavy, as was also Mr. Louis Kurz's admirable Mont Blanc Guide.

The Austrian Mont Blanc Guide was a model in respect of lightness.

*The Alpine Ski Guides: The Bernese Oberland*, vol. ii. By Arnold Lunn. King & Hutchings, Ltd. Uxbridge, 1920.

THE first part of these useful guides was published some years ago, and covered Villars, Adelboden, Saanenmoser, and Zweisimmen. The present volume covers the country between Gemmi and Grimsel, i.e. the central massif of the Oberland.

Mr. Lunn has every qualification as author, for he has done nearly all the chronicled expeditions, many indeed several times during ten winters and twenty summers spent in the massif.

He will not be offended by having any errors or omissions pointed out to him, and with this in view he has printed a very limited edition.

The book must be used in conjunction with the Ski-map prepared by Mr. Lunn and Herr Othmar Gurtner, the author of the valuable monograph on the Gspaltenhorn group in the 'Jahrbuch S.A.C.', vol. liii. Mr. Lunn is an ardent apostle of spring skiing, not content merely with winter.

The book is a thoroughly practical one. The author is very careful to warn the traveller of the danger of avalanches, e.g. the approach to the Gauli hut, route 215. Too much stress cannot be laid on this point, for the main charge against ski, from a purely mountaineering point of view, is that they enable and encourage people, innocent of the rudiments even of mountaineering, to undertake expeditions which, far too often, have the most dire results. Whatever the dangers of summer mountaineering, they are much

added to by winter conditions, and greater, not less, experience is demanded to ensure safety. The summer mountaineer will note with some amusement that contumely is poured on some of his great landmarks, such as the Weisshorn.

Every mountaineer—for Mr. Lunn's splendid enthusiasm cannot fail to be a serious pitfall even to the most rigid of summer devotees—owes Mr. Lunn a debt of gratitude for the great labour the preparation of such a book involves. We hope that Mr. Lunn will allow us to suggest that he read his proofs a little more carefully; thus on page 85 there are seven misspelt words, while his conversion of the *côte* 1920 does not agree with his useful tables—so the R.G.S. is in good company!

## CORRESPONDENCE.

### OLD MEMORIES.

J. E. C. Eaton, Esq.,  
Hon. Secretary Alpine Club.

DEAR SIR,—Your favour of the 22nd ult. reached me at the address below, and I would have answered promptly but was disabled by illness, from which I did not expect to recover. However, I am now much better, and, if I pull through the winter, may last a while longer. In any case, shall probably remain at this address for the rest of my life.

My climbing days, for recreation, were ended, of course, long ago, but I spent many years in South America, doing missionary duty there, and several times I had the privilege—it was real happiness—of crossing the Cordilleras, and my mind then went back to those days of early romance, when, in company with honoured and ever-remembered friends of the dear old Alpine Club, I revelled among the Peaks and Passes of Switzerland. Especially have I always held in loyal remembrance one with whose kind friendship I was favoured, Sir Leslie Stephen, who was then plain Leslie Stephen, of Trinity Hall, Cambridge. He staggered me once by saying (I didn't believe him) that I was the 'best walker' he had ever seen.

I have now entered my eighty-first year, having returned to my old haunts in the North only a year ago.

Thanking you, dear Sir, for having taken the pains to hunt me up, and for your courtesy in writing to me,

I remain,

Most sincerely yours,

JAMES KENT STONE  
(Father Fidelis).

Passionist Retreat,  
Norwood Park, Chicago,  
Illinois, U.S.A.,  
December 22, 1920.

[Father Fidelis's portrait appeared in 'A.J.' xxxii., opp. p. 226.]

## THE NEW ZEALAND A.C.

DEAR CAPTAIN FARRAR,—The 'A.J.' from time to time brings home to one how many stalwarts of the A.C. have 'gone west' during the last few years. I refer specially to Dent, Charles Pilkington, Wicks, Woolley, and A. G. Topham, and, though not a member, to dear old Miss Walker. These and others who are still with us did a great deal to help us in the early days of Alpine climbing in New Zealand, and as their influence on the ideals of the N.Z.A.C. was very great, it may not be out of place to recall the days of thirty years ago.

In 1891 Mannering and I called the first meeting to form the N.Z.A.C., and we were especially anxious to start and keep the Club on strictly A.C. lines, and generally build it up on the same high ideals and standard of qualification.

Mannering and I had just been elected members of the A.C. when I went to London in 1892, and I hoped to be able to meet some of the leading A.C. men during my short visit; but the kindness and consideration of those named above, together with Horace Walker, then President, F. F. Tuckett, D. W. Freshfield, Cecil Slingsby, C. E. Mathews, and many others, exceeded my wildest hopes.

To begin with, Miss Walker took me in hand at Zermatt and made a point of introducing me to the leading members there, and she and Horace Walker invited me to join their annual Alpine house party at Liverpool, where I first met Woolley. From there we went on to stay with Charles Pilkington for a few days, and, if I remember rightly, some of us went afterwards for a day or two to C. E. Mathews. In London Dent and Freshfield invited me to the Alpine Dining Club, and there I first met Cecil Slingsby and others who have since taken so kindly an interest in our work in New Zealand.

This may seem to you rather a small matter, but imagine what it meant to Alpine climbing in New Zealand and to our Club! I was only a youngster, and secretary of the youngest Alpine Club, and it speaks volumes for the kindness and zeal of these men (my seniors by many years) that they all went out of their way to encourage and help us, by their flattering interest in our work, both then and since by much correspondence.

Remember that in those days there were only about half a dozen pioneer Alpine men here—Mannering, Dixon (now too 'gone west'), Malcolm Ross, myself, and one or two others. We were attacking without expert knowledge or assistance an unexplored mountain system as great as Switzerland, and under much more difficult conditions. When you remember this, you will realise what encouragement it was to us to find ourselves taken into the heart of things by such men as I have mentioned, for I always recognise



that the kindness shown to me was as the representative of that small pioneer band out here.

Curiously enough, many of the men I knew best at home in the A.C. were much senior to me, for beyond one or two seasons in Switzerland I did very little climbing in Europe, and therefore I feel a special sadness when I realise, every time I open a new JOURNAL, how many are leaving us.

As this aspect of their zeal in the great cause of Alpine exploration has not been touched upon in the JOURNAL, you may perhaps think it worth while to publish some of the above as an acknowledgment from the N.Z.A.C., through its President, of the great debt our Club owes to these men for the inspiration and kindly advice given at a critical period in our history. It has formed a link between the two Clubs which we hope to maintain.

The N.Z.A.C. is again becoming an active organisation and still has those high ideals steadily before it.

Yours truly,

ARTHUR P. HARPER.

Wellington Club,  
New Zealand,  
January 10, 1921.

#### THE EARLY USE OF CRAMPONS.

*To the Editor of the ALPINE JOURNAL.*

SIR,—I have recently read, either in your paper, or in Mr. Winthrop Young's book, a reference to the antiquity of crampons. I think they were spoken of as having been employed at least 300 years ago. In fact, their use is much more ancient. I have not had time to make any special investigation of the matter, but the following instances of early examples have come in my way.

The earliest, dating from the first Iron Age, comes from Hallstatt, and may be referred to about 500 B.C. This example is, I believe, in the museum at Vienna. Other examples of not much later date were found at Karlstein, near Reichenhall, and at Ottmanach in Carinthia.

Crampons were also used by the Gauls in Roman days, and several which were found at Mont Beuvray (Bibracte) are to be seen in the Musée Saint-Germain-en-Laye.

As Hallstatt was a very early Celtic centre, and the other examples come likewise from the Celtic area, crampons were probably a Celtic invention and carried to Gaul by Celtic immigrants.

MARTIN CONWAY.

Imperial War Museum,  
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## ALPINE CLUB PHOTOGRAPHIC EXHIBITION.

AFTER an unwelcome interval of four years the annual Photographic Exhibition has again resumed its place as the most notable function of its particular kind in the Alpine world of London. In spite of the obvious difficulty of obtaining exhibits so soon after the War, it has this year attained a standard of combined excellence and variety seldom before surpassed, although the pictures numbered only about 150 all told.

While many were of value mainly for topographical reasons, there was an unusually large proportion of works of the highest order of artistic achievement. This was particularly true of those whose chief attraction lay in a sympathetic and skilful rendering of cloud effects. Moreover, in spite of the comparatively small number of separate photographs on view, the ground covered was very varied and extensive.

Had Alphonse Daudet been with us still, in spite of all his love of poking fun at the traditional Alpine English tourist of his day, he would certainly have felt impelled to extend considerably the scope of the compliment he paid in 'Tartarin sur les Alpes' to the ubiquitous enterprise of the British mountaineering brotherhood—'du fameux Alpine Club de Londres qui a porté jusqu'aux Indes la renommée de ses grimpeurs.'

Now, indeed, the very mention of that particular region tempts us to speculate on the revelations we may expect the next exhibition to unfold of that mysterious mountain world whose secrets are at last on the eve of disclosure. Shall we be privileged to look upon glorious panoramas such as Signor Vittorio Sella has reproduced, or that masterpiece of Professor Garwood's, whose 'Siniolchum,' with its vast curtain of dazzling slopes of snow and hanging glacier, is surely one of the noblest pictures of a single ice-clad peak ever made? Such an achievement alone would give the lie to the scoffer who depreciated his craft as a 'foe to graphic art'!

The exhibition may well claim as a whole to have offered a liberal education in physical geography, and we almost wonder that there has been no request to afford special facilities for visits on the part of enterprising teachers of that fascinating branch of useful knowledge.

With the exception of a charming view in Grindelwald by Mr. de Quincey, winter photography was not represented, a distinct deprivation when one recalls the exquisite work at that season by the late Clinton Dent and Hermann Woolley, and Mr. Sydney Spencer.

We were sorry to miss several familiar names from the catalogue, but were glad to welcome some fresh recruits within the walls.

Mrs. W. E. Durham showed a predilection for animate nature,



*Photo R. S. Morrish]*

**AIG. DE BIONNASSAY  
FROM TÊTE ROUSSE**



*Photo W. T. Lister]*

**THE MISCHABEL (E. FACE)  
FROM THE BORTELHORN**



*Photo G. Hasler]*

**SUMMIT OF GRINDELWALD DRU**

particularly in some climbing incidents, in an effective 'Procession in Zermatt,' and in 'Cows on an Alp,' while Miss Sophie Tiarks' best things were a pleasing view in the Saastal and a striking study of 'A Crucifix near Saas Fee.' Mrs. Clive Smith showed a pretty little picture, 'The Almagellhorn from below Saas Fee.' Of Miss Drew's varied exhibits we were most pleased with the views in the Blümlisalp group, especially that from the Gamchilücke towards the Lauterbrunnen Breithorn, and we were glad to have Mrs. Geoffrey Howard's charming views of familiar Arolla peaks, and a cloud-wreathed Matterhorn displaying considerable artistic feeling.

Mrs. Walter Weston showed a photograph of the broad broken ice-fall of the Grindelwald Fiescher Glacier from an unusual point of view, just below the Mittellegi arête, while to Miss Margaret King we are indebted for one of the most beautiful pictures in the exhibition, 'Mont Blanc and the Arve.' The combined effect of distance and dignity in this deserves the highest praise.

Mr. Hugh Gardner's 'Rosengarten,' the result of just the right exposure, afforded the delightful contrast of a foreground of dark trees with a faint, almost phantom, line of distant peaks. A fine pair of enlargements was shown by Mr. R. Graham, 'The Taeschhorn and Dom from the Südlenspitz' and 'The Nadelhorn from the Südlens arête.'

Mr. Howard Priestman's study of the Black and Red Coolins from Portree, with its combination of land and water, conveyed a wonderful sense of repose.

Mr. Morrish's striking exhibits, from the point of view of artistic effect, impressed us as the most remarkable contribution on the walls. The cloud effects in three of them were of great beauty: one in particular, a noble prospect of the Aiguille de Bionnassay from the hut on the Tête Rousse, taken shortly before sunset, fully accorded with the title attached to it in the catalogue, and the effect of the dying sunlight shining on the vapour in the middle distance lent additional dignity to the towering snow-crests high above. This picture well deserves reproduction in the JOURNAL.

Other works notable for the excellence of their cloud effects were Mr. de Quincey's 'Storm on the Jungfrau'; Dr. Williamson's view of the Matterhorn (presenting a fine background to the intervening beautiful veil of vapour), and his early morning prospect of storm-clouds from the Mischabeljoch; the 'Cloud and Mountain from the Titlis,' by Mr. Arthur Gardner (whose Zinal Rothorn also, though not in this category, is a fine example of the dazzling effect of new snow in a clear light); and a very beautiful view in the Val di Corteno by Sir Alexander Kennedy, where a rift in a near cloud-curtain lends additional height and distance to the peaks beyond. This last, with his view in the Val di Brenta, we thought Sir Alexander's happiest effort.

Mr. de Quincey's large pictures from Lo Besso of the Rothorn and Weisshorn showed distinct technical excellence and were full of fine detail, but were perhaps somewhat lacking in atmosphere.

Of Mr. Stevens' exhibits we were especially struck with the pretty view of Mont Pourri, and the delightful pastoral landscape with the Saas peaks beyond the Triftalp.

Mr. Francis Ellis sent six excellent pictures, of which the most noteworthy were from that favourite 'bellevue' the Wellenkuppe, of the Obergabelhorn, and of the Matterhorn with telling contrasts of foreground with a distant peak.

Canon Dawson showed much artistic sense in his beautiful study, from the Findelen path, of the Matterhorn vignetted in graceful firs, and in the characteristic valley scene at Cogne, but, above all, in the delightful afternoon view of the Mischabel from the Almagellalp, where the effect of the delicate film of clouds on the tall peaks was enhanced by the foreground of firs above which they rose.

Of Mr. Hasler's contributions there stood out, as one of the gems of the whole exhibition, 'A Tower on the Grindelwald Dru.' This lovely picture illustrated to perfection the effect of the dazzling sunlight of a late May morning on the half-transparent edge of snow just ready to melt.

Sir William Lister's noble prospect of the Mischabel group from the Bortelhorn was another worthy illustration of mountain majesty, and his 'Aiguille de Lépéna from the Glière' displayed fine contrasts between a striking foreground and the distant peak. The first-named was chosen for reproduction in the JOURNAL.

Mr. Gover's 'Obergabelhorn,' with its effective shadows and broken lights, deserves notice, and even more so his fine view of the Grand Cornier from the Pigne de L'Allée. Dr. Thurstan Holland was worthily represented by a beautiful scene on the Col du Géant, and a view of the Matterhorn and the Lac Bleu. That favourite subject of the Arolla photographer, Mont Collon, was charmingly rendered by the Rev. F. C. Bainbridge-Bell, while interesting and varied scenes came from Mr. Wynnard Hooper and Mr. Finzi.

Mountain gymnastics were adequately illustrated by Mr. G. D. R. Tucker on 'Tryfaen,' and by Mr. Alan Greaves on the 'Frôneli, Isenfluh'; the latter also caught from near the Rottalsattel some magnificent cloud effects towards the Gletscherhorn.

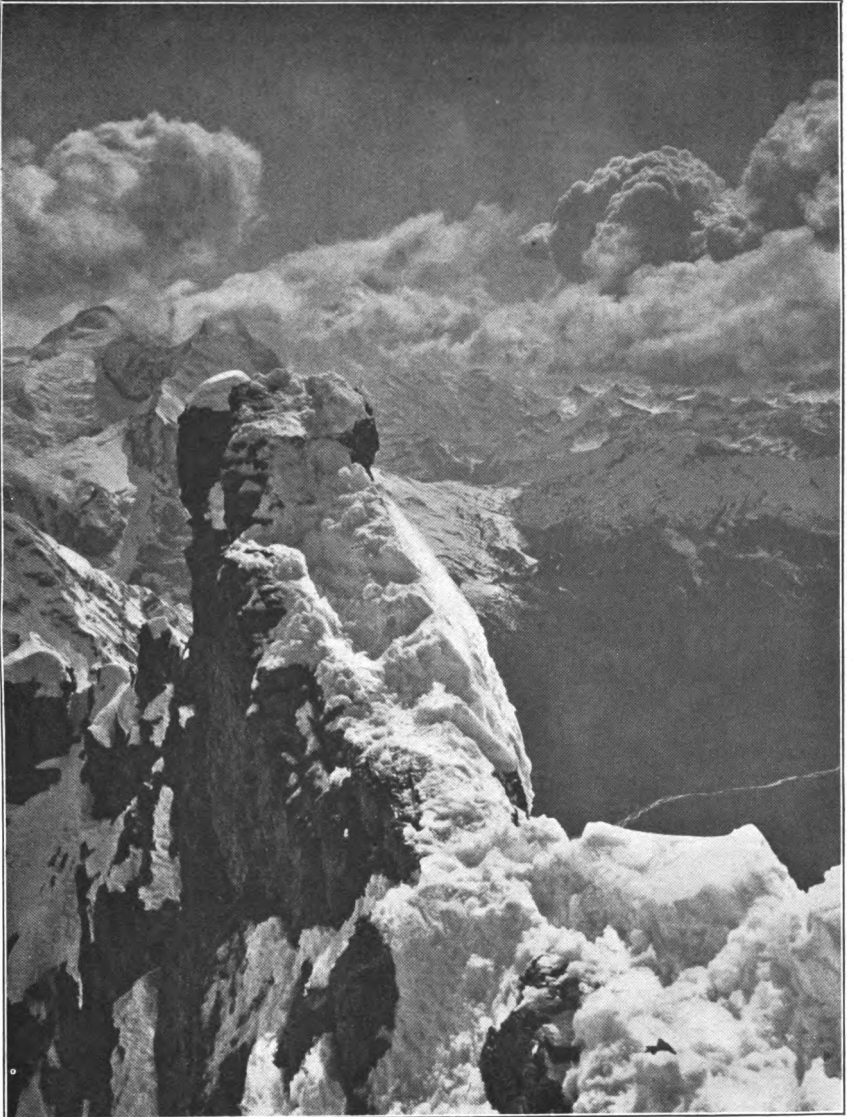
Of familiar scenes in Skye, we had a pleasing prospect of 'Sgurr Alastair' by Mr. G. S. Bower, and a fine landscape, full of light, by Mr. Hugh Gardner.

Mr. R. W. Lloyd showed two views of considerable interest and topographical value—the French side of the Col de Bionnassay, and the Oberschalligrat from the Weisshorn gîte, illustrating two fine new expeditions made by him in 1919 and 1920 respectively.

The landscape near Oberstdorf, Bavaria, by Mr. Benson Lawford, was full of repose. An excellent series of postcard views by J. Gaberell of Zurich was shown by Mr. F. W. Bourdillon, of whose death we now regret to hear.

The Rev. Walter Weston can always be relied on for good work, and his contributions included a very artistic little picture, 'The Jungfrau from the Obersteinberg,' with the snow-peaks peeping





*Photo G. Hasler]*

**SUMMIT OF GRINDELWALD DRU**



above a bank of cloud and in the foreground the corner of a mountain slope on which haymakers are resting from their labours in attitudes of picturesque repose: altogether a most natural and happily grouped composition. Another exhibit, 'The Lauterbrunnen Breithorn from below the Schilthorn,' was more than a mere photograph, making a really charming picture with the straggling flock of sheep wandering across a grass slope in the foreground.

Mr. Sydney Spencer's Swiss Alpine pictures displayed that skill and effectiveness which we have learned to look for from him in the highest degree. The Grandes Jorasses from the Tour Noir was an imposing prospect, and even more so was the splendid panorama from the Büttlassen, so striking a feature of a former exhibition, with its wonderful combination of softness, dignity, and clearness of detail.

The Canadian Alpine regions have seldom been more effectively represented than at this exhibition. To the President we were indebted especially for a very beautiful sunset scene on the Yellow-head Pass and a splendid waterfall on Mount Robson, both most artistically rendered. Mr. Julian Osler exhibited an interesting series of autochrome slides, besides three enlargements, of which the best was 'The Valley of the Ten Peaks,' where the great torrent contrasted finely with the ghostly forms of the distant heights.

Mr. Mumm, who must now possess a very fine and comprehensive collection of photographs of the Canadian Rockies, contributed seven pictures of this region, all of very high quality. We liked best 'Howse Peak,' the fine view of Mount Pilkington, and 'Mount Eon &c. (Assiniboine Group).'

Turning from the New World to the 'immemorial East,' Japan claimed more attention than usual. Mr. Spencer seemed unfortunate in his weather conditions, or he would have produced worthy rivals to the splendid pictures such as Mr. Ponting sent to a former exhibition. We were most struck by his view of 'Fuji from Lake Shōji,' but this famous mountain is a notoriously difficult subject in the heat and haze of a nearly tropical summer sun.

Mr. Weston sent a small study, 'The Norokawa Valley in the Southern Japanese Alps,' giving a very characteristic impression of that interesting country. Mrs. Weston also showed a small coloured view of Fuji by a Japanese gentleman, Mr. N. Gwahō, which attracted attention. It was considerably touched up, but it was very skilfully done in the manner which seems to be a secret of that clever people, and in this case it was justified by the result, which gave us a very charming picture conveying at first sight the impression of a water-colour.

The Club has for so long gratefully accepted and taken for granted Mr. Spencer's unique services in arranging these exhibitions during so many years, that few members probably realise how much patience, diligence, and organising ability are called for to ensure the unqualified success he has never failed to attain.

To him once more there is offered our best thanks for his kindness: our gratitude is unbounded.

## PROCEEDINGS OF THE ALPINE CLUB.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, W. 1, on Monday, December 6, 1920, at 8.30 p.m., Professor J. Norman Collie, LL.D., F.R.S., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. A. L. Bill, Mr. H. J. H. Irish, Mr. W. C. Milroy, M.D., and Mr. H. F. Wright.

The PRESIDENT, in accordance with the provisions of Rule 29, there being no other candidates, declared the following members nominated by the Committee to be duly elected as Officers of the Club and Members of Committee for 1921.

*As President:* Professor J. Norman Collie, LL.D., F.R.S.

*As Vice-Presidents:* Mr. A. L. Mumm, and, in place of Mr. C. H. R. Wollaston, whose term of office expires, Mr. Godfrey A. Solly.

*As Honorary Secretary:* Mr. J. E. C. Eaton.

*As Members of Committee:* Professor E. J. Garwood, F.R.S., Mr. R. L. G. Irving, the Rev. Walter Weston, Mr. R. P. Bicknell, Major M. G. Bradley, Captain E. V. Slater, Colonel the Hon. C. G. Bruce, C.B., M.V.O., Mr. G. E. Howard, and Mr. L. G. Shadbolt—the last three named in the places of Captain S. L. Courtauld, Lieut.-Colonel W. G. Johns, D.S.O., and Mr. H. F. Montagnier, who retire by effluxion of time.

It was proposed and seconded that Messrs. R. S. Morrish and Reginald Graham be elected Auditors to audit the Club accounts for the current year. This was carried unanimously.

The PRESIDENT said:—We have all heard with considerable regret of the death of Mr. E. A. Broome. He was a very old Member of the Club, and was elected in 1889. He served on the Committee in 1900 and was elected Vice-President of the Club in 1912. Mr. Broome was one of those people who have a most extraordinary love of the mountains, a man full of energy and spirit, and a great climber. His death has meant a great loss to the Club. I have only occasionally met him in the Alps, and for that reason I will call upon other members who were far more intimately acquainted with him to say a few words to us. First of all, I should like to read to you a letter I have received from one of his oldest friends, Mr. John J. Withers, who writes:

‘MY DEAR PRESIDENT,—

‘I had hoped to be present to-night at the General Meeting to say a few words, as you kindly suggested I might, in memory of our valiant old friend Broome. I find, however, unexpectedly, that I must be in Cambridge, so, if you will allow me, I will write a few words instead.

‘About Broome’s fine climbing feats, others, more expert than

I, will speak. Of the man himself, one of my closest friends for many years, my appreciation, I am sure, is warranted.

‘Broome had to an extraordinary degree two attributes—love of the mountains and affection for his friends. His love for the Alps was the ruling passion of his life. Not only did he delight in climbing them, but everything and everybody connected with them were a joy to him—the guides, the inns, the innkeepers, the village characters. During the winter nothing pleased him more than to gather round his hospitable board a few Alpine friends, to climb his peaks again, praise the daring or skill of some favourite guide, and denounce with Biblical eloquence but with chivalrous anonymity the ancestry and descendants of any clumsy mortal who had been unfortunate enough to send a stone down on him. Memories led to anticipations, and he would plan over and over again the campaign of the coming year, and often in more recent years a lightning trip to the Pyrenees or the Italian valleys in the spring.

‘Every mountain inn he had visited was recalled as his home, and everyone who had associated with him there—waiters, waitresses, and porters—were remembered as faithful members of his own household. As he loved, so he hated, and it was a sorry day for any innkeeper or guide who played a trick on him. He never forgot it, and took good care none of his friends did either. Such treachery ate into his soul.

‘His friends were mostly from the hunting-field or mountain, and were innumerable. He did not make them rashly or easily, but “their adoption tried,” he grappled them to his heart with hoops of steel. He loved to be with them to hear of their doings and tell them of his. Their welfare was a continual care to him, and any misfortune to them was a blow to him. This loyalty was unbounded, and woe to anyone who in his hearing spoke a disparaging remark about anyone of them. So, too, he expected from them an unvarying loyalty, and an apparent lapse from his high ideal was a terrible blow.

‘The fine old warrior has passed away and lies among the great peaks, “felix opportunitate mortis.” It was sad indeed during the last weeks of his life to see that indomitable spirit clothed in its feeble body. It is contrary to the nature of things that such force and energy has come to an end. Where two or three are gathered together in praise of the mountains, there will his spirit be also.

‘I am, my dear President,

‘Yours truly,

(sgd.) JOHN J. WITHERS.’

Sir EDWARD DAVIDSON said :—Mr. President, I am very much obliged to you for giving me an opportunity of paying a small tribute to my old friend Mr. Edward Broome. I wish to associate myself with all you have so well said and with all that Mr. Withers

has so well written. As a mountaineer I have known Mr. Broome since 1889, in which year he was elected to the Club. On the first occasion that I met him he was crossing the Matterhorn from Breuil in that year with a large party of friends, but in very indifferent weather, and from that time on we have met in many parts of the Alps year after year. This is not the time to descant in detail on Broome's very remarkable climbing achievements. Originally he was perhaps inclined to be a 'centrist' (to use Sir Martin Conway's expression), but later on he became a cosmopolitan climber and explored the Alps from end to end, from Dauphiné to the Dolomites. He had, in especially, a 'penchant' for following up difficult routes which had been done only once or twice, such as the Col du Mont Dolent, the Col des Grandes Jorasses, and so on. But his energies were not confined to mountaineering, for he was a many-sided man in every way. He was a familiar figure in the hunting-field, and he was also well known in musical circles. I believe that at one of the 'Three-Choir' Festivals, owing to the non-appearance through sudden illness of the professional soloist, he was called upon at very short notice to sing the whole of the baritone part in the oratorio 'Elijah,' which he did with great success. He was a Justice of the Peace and Deputy-Lieutenant for Worcestershire, and took an active part in county business. He was one of the shareholders' auditors of the accounts of the Great Western Railway Company.

But I especially desire now to express my own personal tribute to Mr. Broome, as I had the great good fortune during my term of office as President of the Club to be associated with him, first as junior, and then as senior, Vice-President. He was a real support, and the assistance he gave at all times was invaluable. He was ever ready to step into the breach if occasion arose, and he was always loyalty itself. I cannot help feeling that the Club, as well as myself, owes him a great debt of gratitude for all that he did at that time.

At the end, he had the good fortune to be surrounded by most of his nearest relatives and by many Alpine friends. He passed away under the shadow of the peaks he loved, and he was carried to his rest by the chief guides of the Zermatt valley, which in life had been his familiar and happy hunting-ground. Had the choice rested with him, I feel sure he would have so chosen. Mr. Withers has said of him that he was 'felix opportunitate mortis'; may I add 'Requiescat in pace.'

The Right Hon. LORD STERNDALÉ said :—I should like, if I may, to say a few words about Mr. Broome, and my excuse for saying anything to-night must be that I had the advantage of being associated with him during the first year of my term of office as President. He was then senior Vice-President, and I received a support and assistance from him equal to that of which Sir Edward Davidson has spoken. Although I was never on a mountain with him, I often met him in the Alps, and I shall miss him much if I ever

go there again. He was a man whose good qualities impressed themselves on his friends in increasing degree, the better he was known.

It is not necessary for me to add anything as to his climbing career. It was long and distinguished and continued almost to his death. I met him last year at Chamonix, and I think it was becoming apparent even to him that his strength was no longer equal to the efforts he wished to make.

Whether his life would have been longer if he had taken things more easily I do not know, but I do not think that he would have wished it. A life of enforced idleness as an invalid would have been unbearable to him. I think he died as he would have wished—amongst the mountains—and almost without having ceased to be an active mountaineer. He was a good sportsman and a good friend, and those who knew him best will feel his loss the most.

The PRESIDENT said :—Another member whose loss we deplore is Mr. Reginald Farrer. He was a true lover of the mountains and a great botanist. He had made many journeys in the western parts of China where mainly unexplored and wild mountainous country is to be found. He died this summer in Burmah, and his death has caused a great void in the Club.

With great regret I have also to announce to you the deaths of two other old Members of the Club, namely, Mr. William Asbury Greene, and Sir William Abney, K.C.B., R.E., F.R.S.

Mr. William Asbury Greene was elected in 1880, and he died on November 7 last.

Sir William Abney was elected in 1877, and he died on December 3. He was well known as a pioneer worker in the field of photographic science. He entered the Royal Engineers at the age of seventeen, and retired in 1881. He was elected a Fellow of the Royal Society in 1876, served as President of both the Royal Astronomical and the Physical Societies, and in 1905 he was elected a Vice-President of the Royal Institution.

The PRESIDENT brought to the notice of Members various details connected with the Winter Dinner.

A vote of thanks to Mr. Sydney Spencer for his work in connexion with the Photographic Exhibition was heartily acclaimed.

Mr. N. E. ODELL then read a Paper entitled 'Successes and Failures in 1920,' which was illustrated by lantern slides.

The PRESIDENT said :—The description of the climbs made by Mr. Odell and his companions makes one feel as if one would like to get out there at once. Undoubtedly the Mont Blanc region is one which cannot be bettered for all-round climbing, and I believe there are still some routes there which remain to be discovered. The ridge climbed by Mr. Odell on the Aiguille Verte seems to have bristled with difficulties, and to get to the top by that route would have been a great performance. The only wonder is that he got as far as he did, and I think he is to be congratulated on his attempt. I now ask you to pass a very hearty vote of thanks to him for his Paper and for the very fine slides he has shown us.

The vote of thanks to Mr. Odell was carried with great acclamation, and the proceedings terminated.

THE ANNUAL PHOTOGRAPHIC EXHIBITION was held in the Hall of the Club from Wednesday, December 1, to Wednesday, December 15. In connexion with the Exhibition an 'At Home' was held on Monday, December 6, when some 400 persons, Members and their friends, attended.

THE ANNUAL WINTER DINNER was held in the King's Hall of the Holborn Restaurant on Tuesday, December 7, 1920, at 7 P.M., Professor J. Norman Collie, LL.D., F.R.S., *President*, in the Chair. There were present 264 Members and their guests, among the latter being Sir Hercules Read, LL.D., Mr. Harold Cox, the Right Rev. Bishop Gore, D.D., and the Right Hon. Sir Gordon Hewart, K.C., M.P., Attorney-General. The usual toasts were given.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, February 1, 1921, at 8.30 P.M., Professor J. Norman Collie, F.R.S., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Henry Baldwin de Villiers-Schwab, Mr. Robert Alexander Frazer, Dr. Nils Backer Gröndahl, the Rev. Canon Joseph Henry Kidd, Mr. Theodore Howard Somervell, F.R.C.S., and Mr. Ralph Forester Stobart.

The *PRESIDENT* said :—With great regret I have to announce the death of Mr. G. F. Turner, who was elected in 1901. He died in December last.

Another loss to the Club has been caused by the death of Mr. F. W. Bourdillon, who was elected in 1900. He died a fortnight ago. He was a man of very considerable literary tastes, and published several books of poems. Besides being a poet he was well read in the very old French romances. He was a great lover of Switzerland, and he has occasionally read to us some very charming Papers. To his old friends and to all those who knew him his death will mean a very great loss.

Mr. Fitzgerald Whelan, who was elected in 1902, died at the end of last year. I believe Dr. E. H. Stevens knew him well, and I am sure we should all be glad to hear a few words from him. (Dr. Stevens' remarks are reported as an 'In Memoriam' notice.)

Most of the Members have no doubt seen the notices in the Public Press concerning the expedition to Spitzbergen which is now being organised by Oxford University. I have been asked to state that besides the topographical and mountaineering section, of which Mr. N. E. Odell, our member, is to be the leader, there will also be a zoological section attached to this expedition. The last British party went there in 1907, and although they accomplished a great amount of most useful work, there still remains much to be done in order to supplement our knowledge of that land. I understand that they are greatly in need of funds in order to place the expedition



on a sound financial basis, and that subscriptions from any of the Members of this Club would be greatly appreciated. The printed circular on the Notice Board will give you any further particulars that you may require.

I announce with pleasure that Mr. Albert Ball, son of the late John Ball, our first President, has presented to the Library a number of books and pamphlets from his late father's library. The Hon. Librarian has expressed to Mr. Ball our grateful thanks for his gift.

Our congratulations are due and are heartily accorded to Chevalier Victor de Cessole, who has recently been created a Chevalier de la Légion d'Honneur.

*Mount Everest Expedition.*—The PRESIDENT gave a short exposition of the negotiations leading up to the formation of the Joint Committee which is now considering the question of ways and means for the ascent of Mount Everest. He stated that he received information in December last from Sir Francis Younghusband that the Dalai Lama had promised facilities to an expedition passing through Tibet, and that he (Sir Francis Younghusband), desired to form a Committee of Members of the R.G.S. and of the A.C. to go into the question. The necessity of immediate action being imperative, the President had on his own initiative called together the following Members of the A.C. to sit on this Joint Committee, viz., Captain J. P. Farrar and Mr. C. F. Meade, himself and the Hon. Secretary, Mr. J. E. C. Eaton, sitting as members *ex-officio*. The Members of the Joint Committee representing the R.G.S. were Sir Francis Younghusband, Colonel Jack, Mr. Somers Cocks, and Mr. Arthur R. Hinks. A number of meetings had already been held and considerable progress had been made. The Joint Committee had decided that Mr. Harold Raeburn should be sent out this year in charge of the actual mountaineering party. Mr. Raeburn hoped to leave England some time in March, in advance of the expedition which is expected to cross into Tibet about May, and to reach the neighbourhood of Mt. Everest some time in June. Funds are needed for the financing of the expedition, and a circular will be sent out to Members as soon as possible, setting out the objects, aims, and needs in connexion with this project. As stated, the President had hitherto acted on his own initiative, and what he now desired was that the Club should ratify and confirm the action he had taken in this matter, so that the Club may be identified with the work in hand. The President emphasised the fact that the Alpine Club was not committed to financial liabilities of any kind.

Sir ALEXANDER KENNEDY thereupon moved that the thanks of the Members be accorded the President for the energetic and timely action he had taken with regard to the work of organising this expedition, and that his action be confirmed by the Members present.

Sir EDWARD DAVIDSON seconded, and on being put to the meeting the motion was carried *nem. con.*

Sir FRANCIS YOUNGHUSBAND thanked the members for thus identifying themselves officially with the R.G.S., and said that the great success they had achieved in getting permission from the Dalai Lama to proceed through Tibet was due to Colonel Howard Bury.

The PRESIDENT said :—Members will be glad to hear that His Serene Highness The Prince of Monaco has accepted Honorary Membership of the Club.

Mr. RAYMOND BICKNELL then read a Paper on ‘Mont Dolent from the Glacier d’Argentière and the Col des Grandes Jorasses,’ which was illustrated by lantern slides.

Comments on the Paper followed, Mr. HUGH E. M. STUTFIELD remarking that he had never listened to a more lucid description of actual climbing. The proceedings terminated with a very hearty vote of thanks to Mr. Bicknell, which was carried with great acclamation.

### THE EVEREST EXPEDITION.

Captain Finch was, at the last moment, declared medically unfit for this year’s expedition. A renewed attempt, unfortunately unavailing, was made to secure Mr. Ling’s co-operation, which Mr. Raeburn had always been anxious to have.

It is much to be regretted that the great experience and never-failing infectious bonhomie of the Scottish President were not available for the expedition, while the varied experience of Captain Finch, especially as a winter mountaineer and expert skier, his proved powers of leadership on the most difficult and arduous expeditions, his scientific knowledge and great skill in mountain photography are a further loss.

Finally, on the proposal of Mr. Mallory, supported by a letter from Mr. Irving, Mr. G. Bullock was adopted as a member of the expedition.

It should be understood that, in the early stage, inquiries were made of several well-known mountaineers as to joining the expedition. It is, however, possible to few men, at short notice, to arrange to be absent from England for seven or eight months.

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CORRIGENDA.—‘A.J.’ vol. xxxii. (v. also p. 273), p. 367, line 18 from bottom, read ‘Mr. F. O. Wethered.’ Mr. Wethered is a cousin of our very splendid veteran, the late F. T. Wethered. He rowed No. 6 in the Oxford boat in the 1885, 1886, and 1887 Inter-University races, and was formerly a member of the A.C.

P. 386, for ‘about’ read ‘above.’

END OF VOLUME XXXIII.

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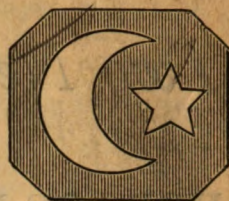
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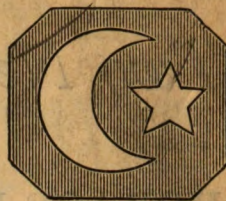
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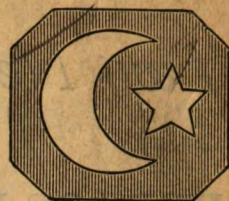
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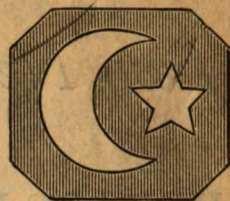
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